Ve 370 Project 2

Simulation and FPGA Implementation of a Single-cycle and Pipelined CPU Design

Final Report

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Content

1. Objective

- To deepen understanding to single-cycle CPU and pipelined CPU.
- To practice building a single-cycle CPU and pipelined CPU which can implement a basic subset of MIPS instructions including “add”, “sub”, “and”, “or”, “addi”, “beq”, “slt”, “lw”, “sw” and “j” using Verilog with Xilinx ISE Design Suite.
- To simulate the behavior of the CPU using Isim.
- To implement the CPU on a Xilinx FPGA board.

2. Background

CPU A central processing unit (CPU) is the hardware in a computer that stores a part of the being-executed program and being-used data, and performs arithmetical, logical and I/O functions. The CPU execution is driven by a periodical clock, and the simplest one is called single-cycle CPU, which execute one instruction per clock cycle. However, this kind of CPU has low efficiency because the clock cycle is determined by the instruction that has the longest execution time. To enhance the performance, another kind of CPU is invented: pipelined CPU. In a pipelined CPU, the execution of a piece of instruction is divided into five stages, and each stage possesses one clock cycle. It seems the execution time per instruction is stretched. However, there are two differences: First, in the same clock cycle, different parts of CPU are actually executing stages from different instructions, so at most five instructions can be executed at the same time. Second, each clock cycle is much shorter than that of a single-cycle CPU, because the clock cycle is determined by the longest stage of one instruction, and it is only a small part of a whole complete instruction. Therefore, the performance of a pipelined CPU is much better than a single-cycle CPU.

MIPS MIPS is a reduced instruction set computer (RISC) instruction set architecture (ISA). It belongs to assembly languages (a kind of low-level programming languages where each instruction is corresponding to a piece of machine code instruction).

Verilog Verilog is a hardware description language used to program the programmable electronic systems. In Verilog, the basic function unit is called module, which can implement one or more specific function and can be treated as an element in the logical combination circuits. The hardware programming is quite different from software programming. It is just like connecting circuits without much care about the order of the instructions.

FPGA board A field-programmable gate array (FPGA) is an integrated circuit which can be controlled, or rearranged, by hardware programming to implement different functions. We can use Verilog or VHDL to write programs and burn them to the board, then the logic gate array will be programmed and the circuit will be able to execute the program.

In this project we will use Verilog to write a CPU program, both single-cycle and pipelined. The CPU program will be simulated with a piece of MIPS testing instructions stored in the Instruction Memory. Finally, we will burn the program into an FPGA board to implement it.

3. Design

3.1 Single-cycle CPU

3.1.1 Program Counter (PC)

The program counter counts the address of the instructions stored in the instruction memory. The PC will add 4 to itself automatically every time it fetches one instruction, except for instructions like jump or branch-on-equal which require the PC to change its value to the address of the target instruction.

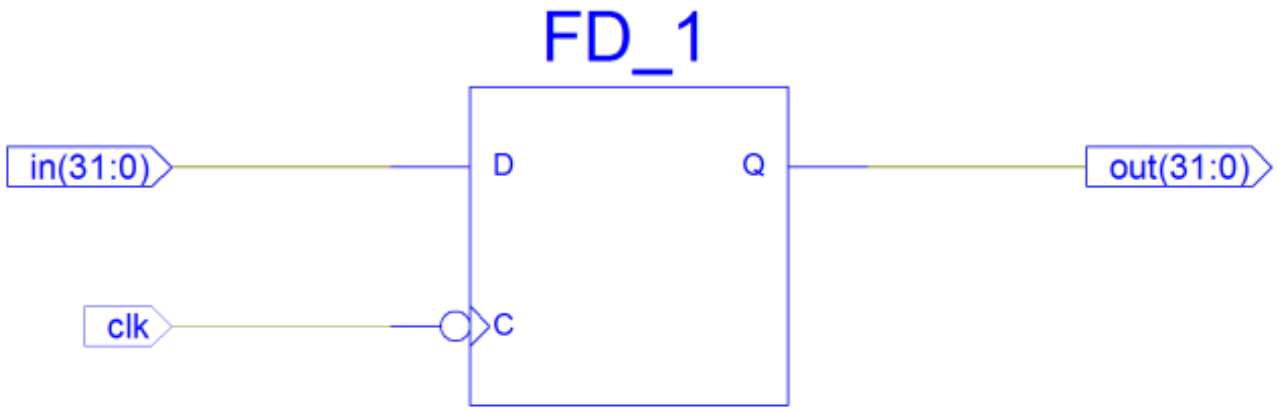

Fig. 1 RTL Schematic for Program Counter

3.1.2 Instruction Memory

The instruction memory is a 128*32-bit array holding instruction codes. The input is the byte address, and the output is the target instruction.

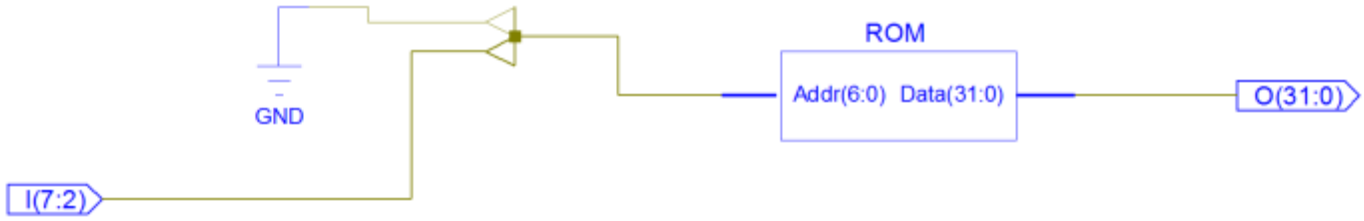

Fig. 2 RTL Schematic for Instruction Memory

3.1.3 Control Unit

The control unit produces control signals according to the specific instruction fetched from the instruction memory. These control signals will be output and command the elements to select or operate on data, thus implement the function of the instruction.

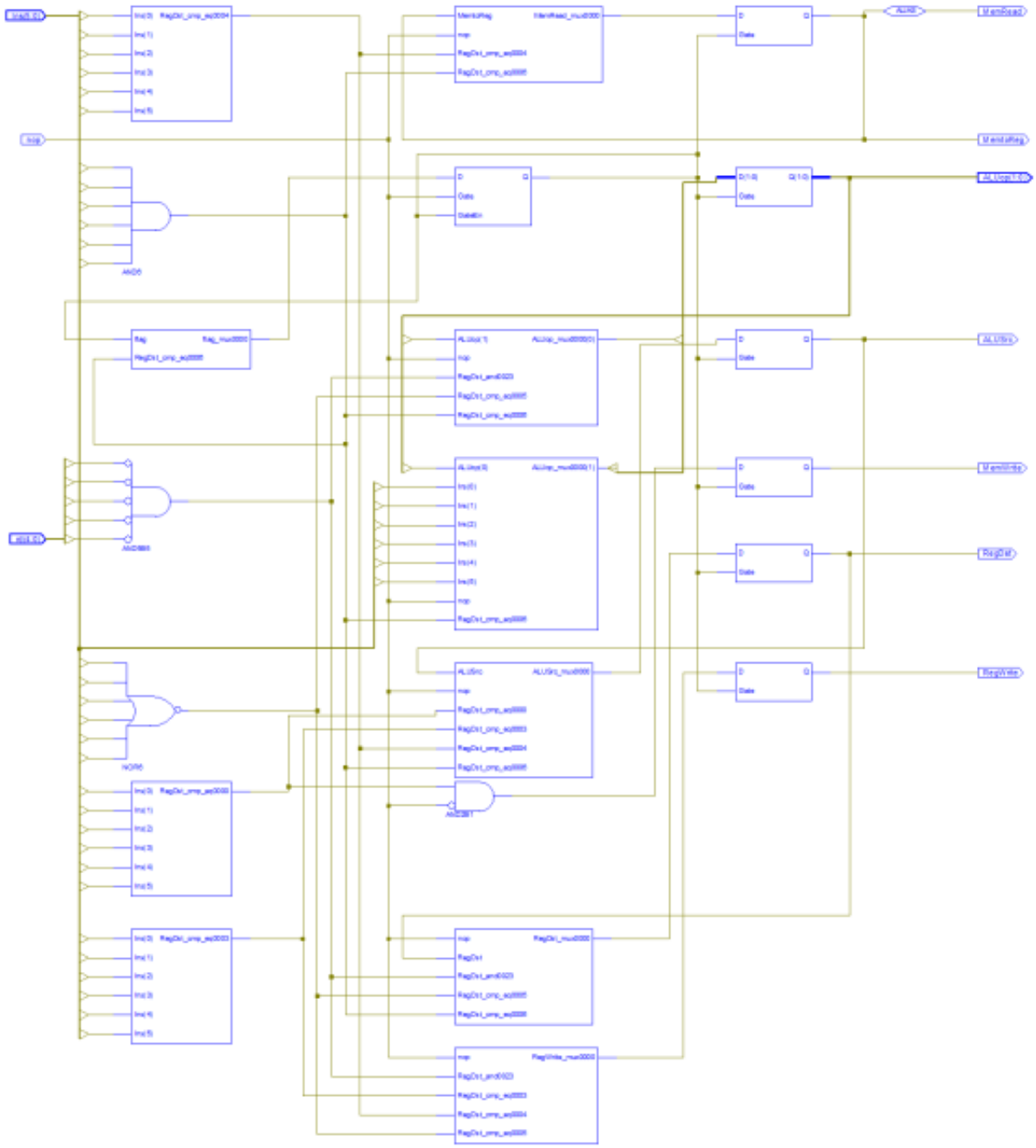

Fig. 3 RTL Schematic for Control Unit

3.1.4 Register File

The register file is implemented as a 32*32 array, and each line is a register storing a 32-bit word. The data can be fetched, modified and overwritten. In single-cycle CPU, all these operations are done in one clock cycle.

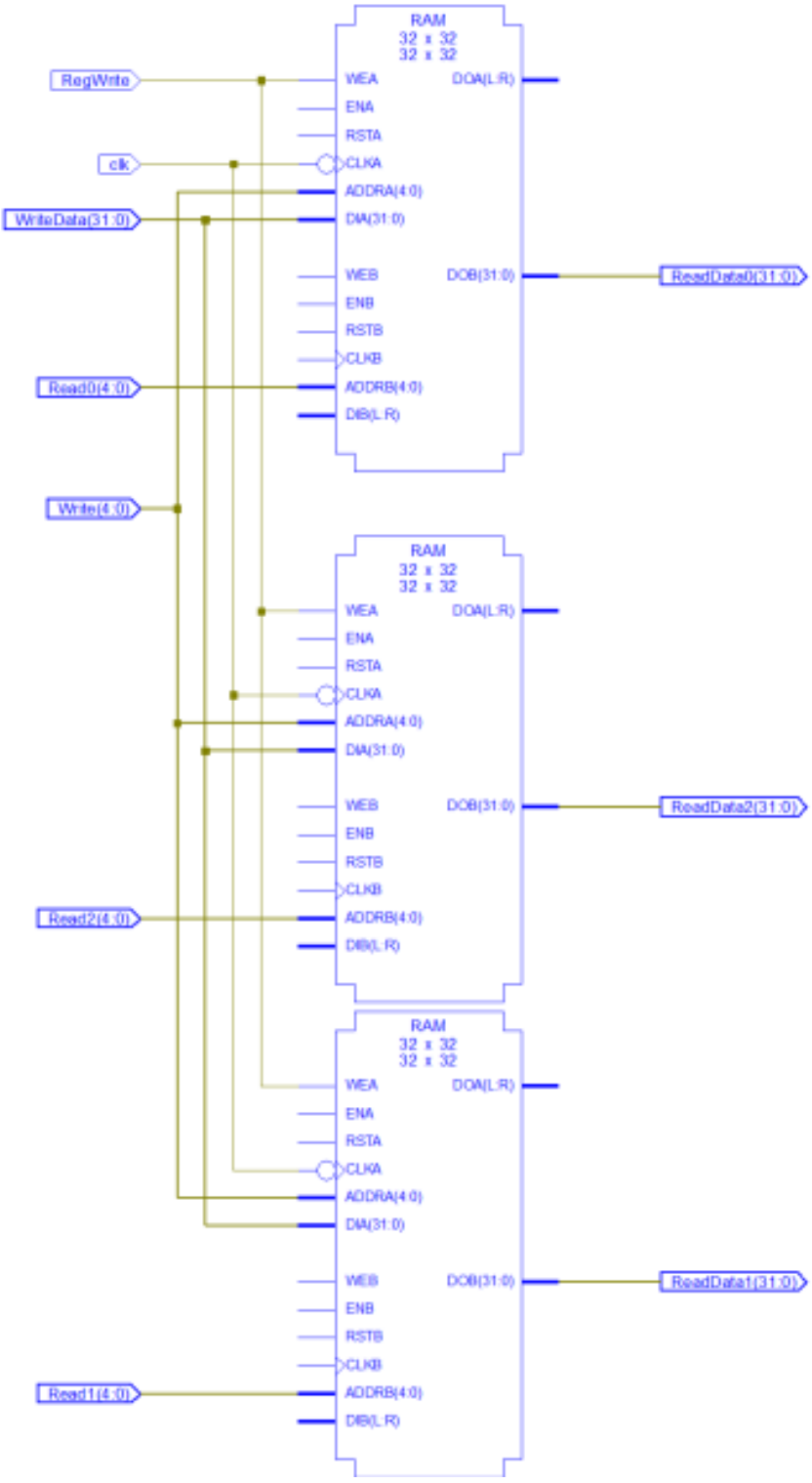

Fig. 4 RTL Schematic for Register File

3.1.5 Arithmetic Logic Center (ALU)

A combinational logic circuit is built to implement an ALU. This ALU contains the following basic operations: addition, subtraction, logic and, logic or, set-on-smaller-than. It takes a four-bit ALU control signal, one or two data as the input and does arithmetic or logical operations on the data to produce a result. The “zero” denotes whether two inputs are equal when they perform “sub” or “beq” instructions.

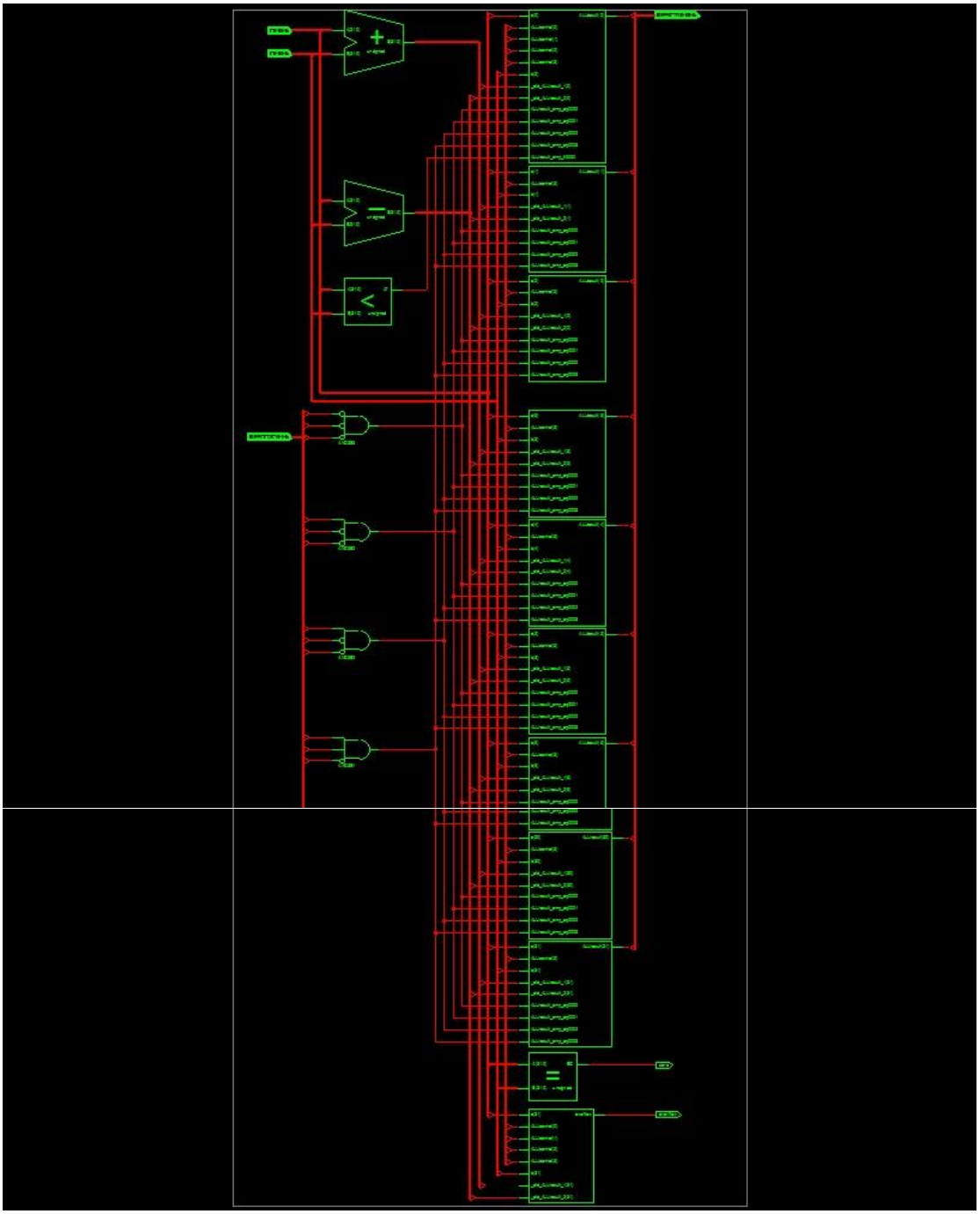

Fig. 5 Key Parts of RTL Schematic for ALU

3.1.6 ALU Control

The ALU shown above needs function selection, so that we can obtain the desired results from it. Therefore, we need to add an ALU control unit. This unit takes “funct” part of the instruction and the signal ALUop produced from the control unit as input, and produce a 4-bit ALU control signal. By this signal, the ALU will be able to select the correct arithmetic or logical operation.

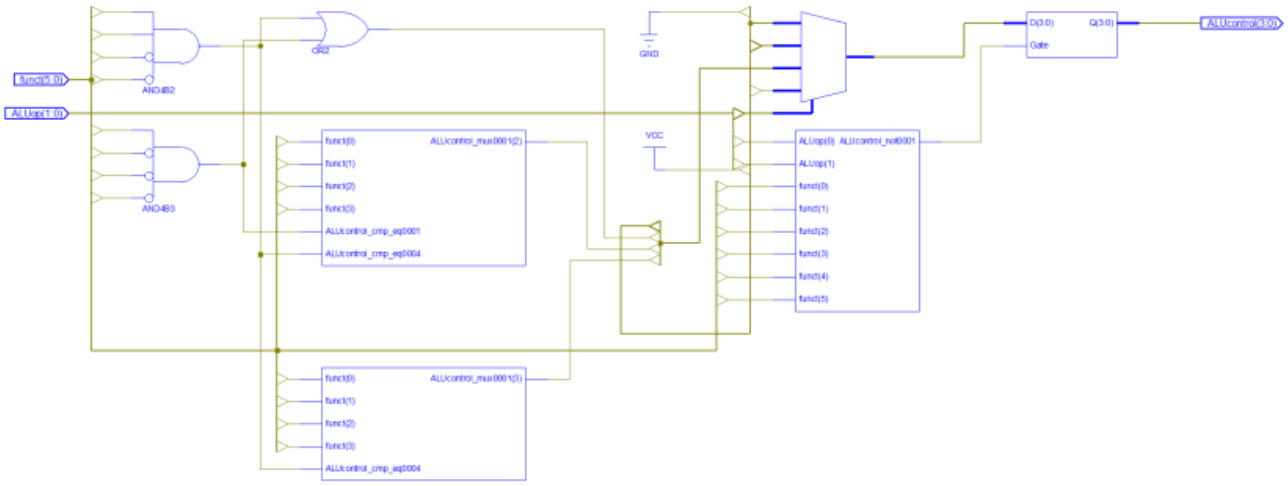

Fig. 6 RTL Schematic for ALU Control

3.1.7 Data Memory

Data Memory is a 64*32 array holding data. The data can be stored and read. If takes data, addresses and control signals as inputs. If MemWrite == 1, the data will be written into the corresponding position in the memory. If MemRead == 1, the data memory will output a datum stored in the corresponding address. What's more, the writing operation is driven by the falling edge of the clock.

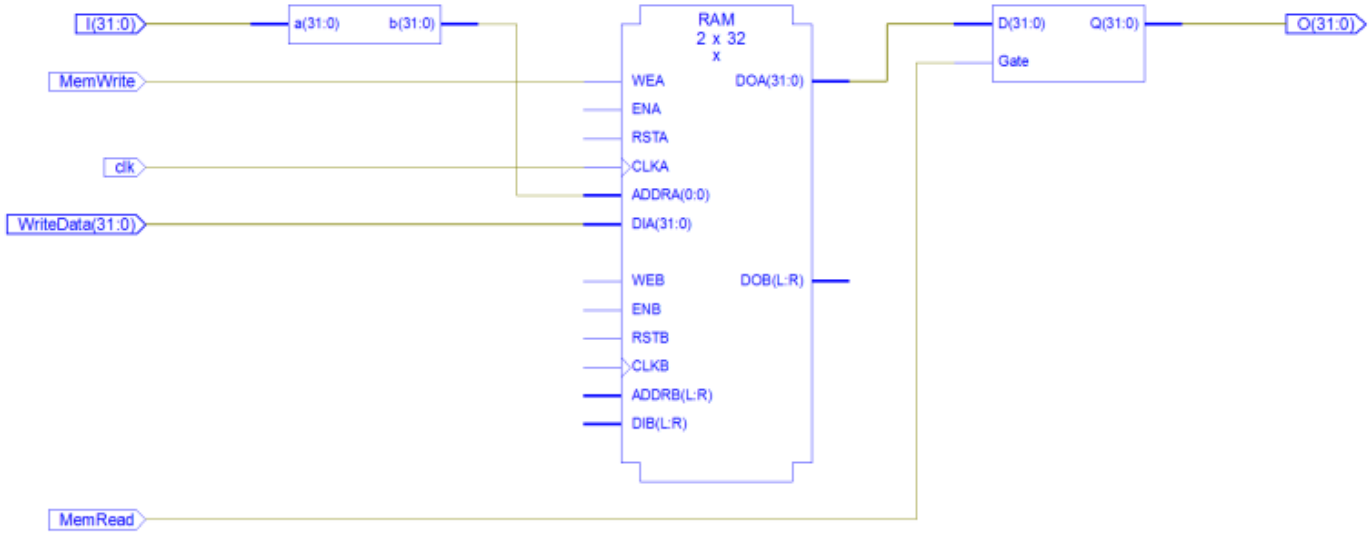

Fig. 7 RTL Schematic for Data Memory

3.1.8 Structure of Single-cycle CPU

The complete RTL schematic of a single-cycle CPU is shown below:

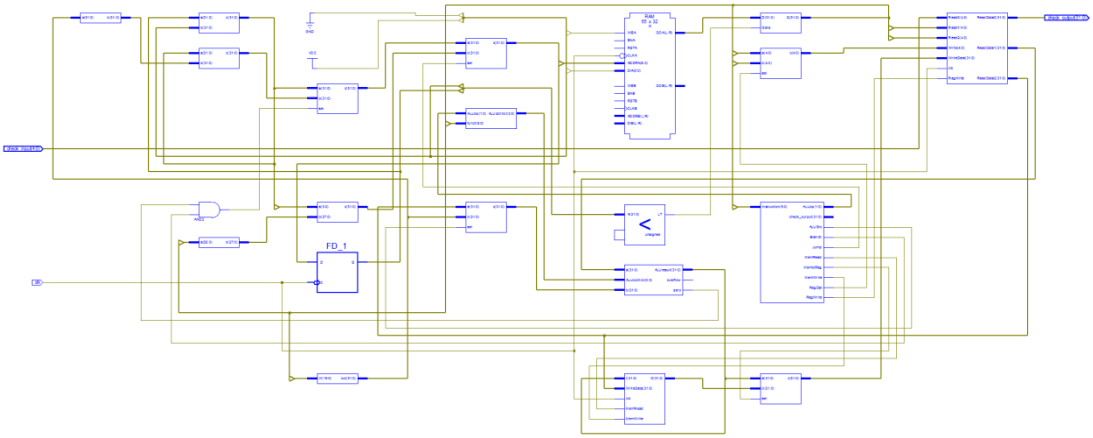

Fig. 7 RTL Schematic for Single-cycle CPU

3.2 Pipelined CPU

Except for some tiny difference in the components in single-cycle CPU, there are many new components in pipelined CPU design.

3.2.1 Stage Registers

The stage registers are used to store the data passed between different stages, and they are controlled by the rising edge of the clock. At rising edge, the data can be written into the registers. Moreover, the signal “flush” can control whether to clear the content in the registers. If some undesired data are written, then the flush is set to 1 and the stage registers will be cleared.

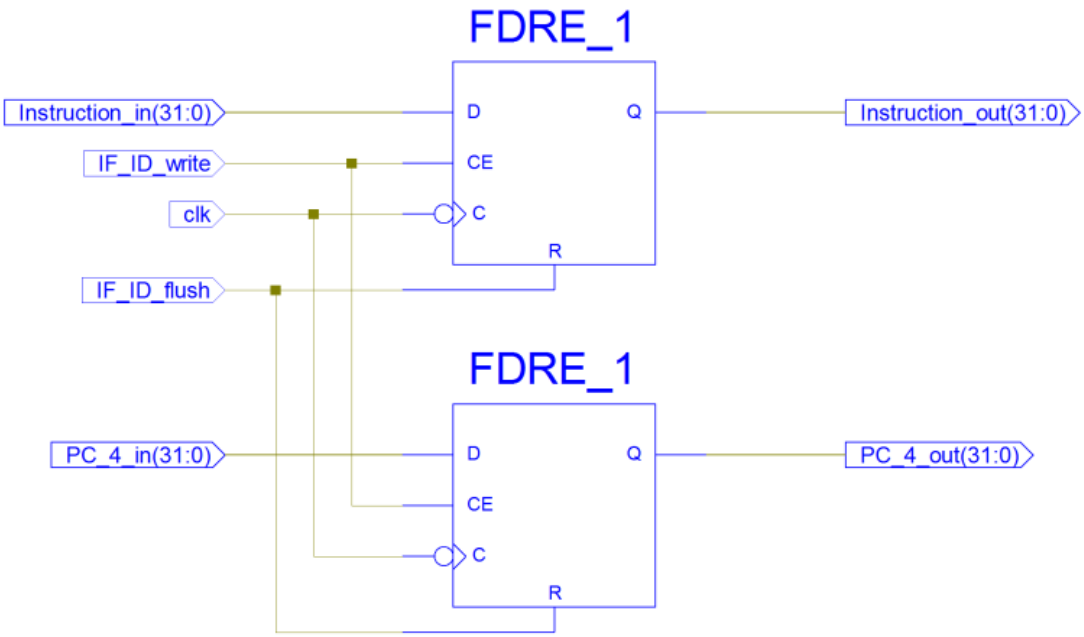

Fig. 8 RTL Schematic for IF-ID Register

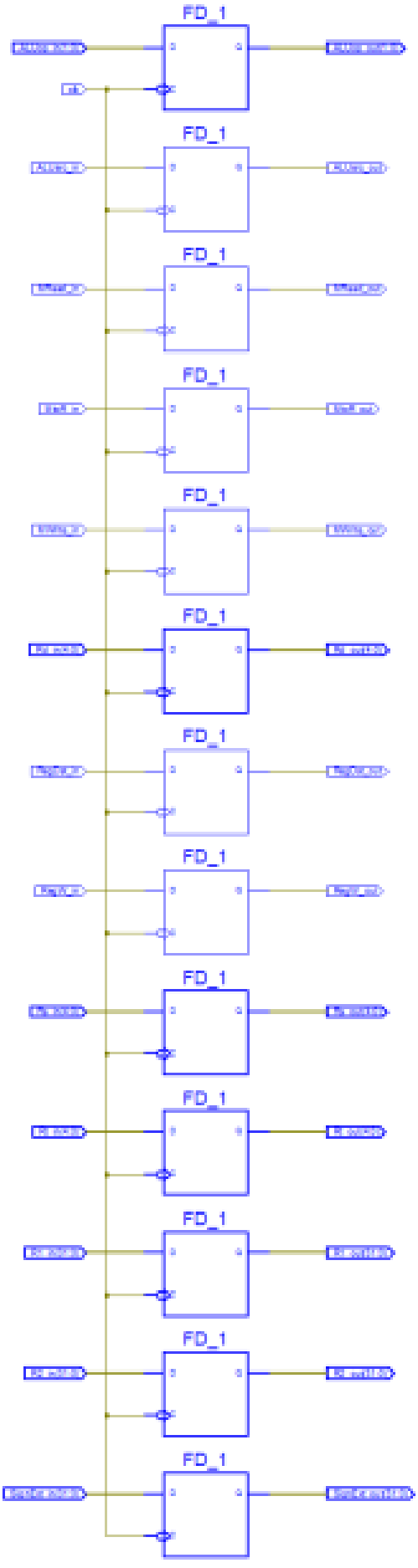

Fig. 9 RTL Schematic for ID-EX Register

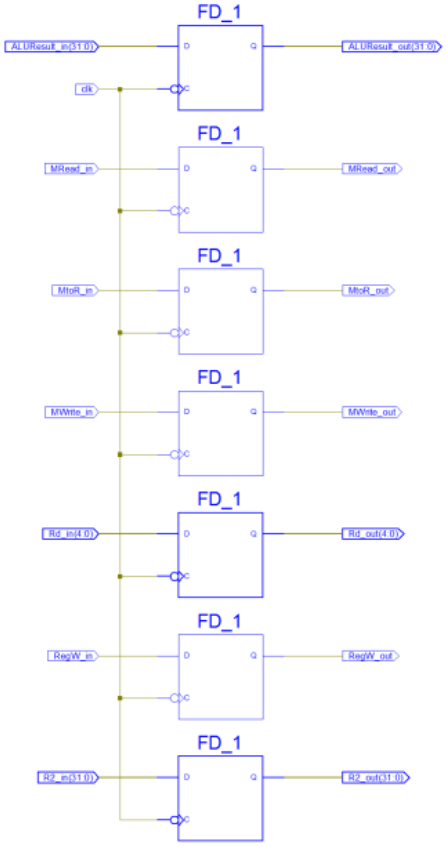

Fig. 10 RTL Schematic for EX-MEM Register

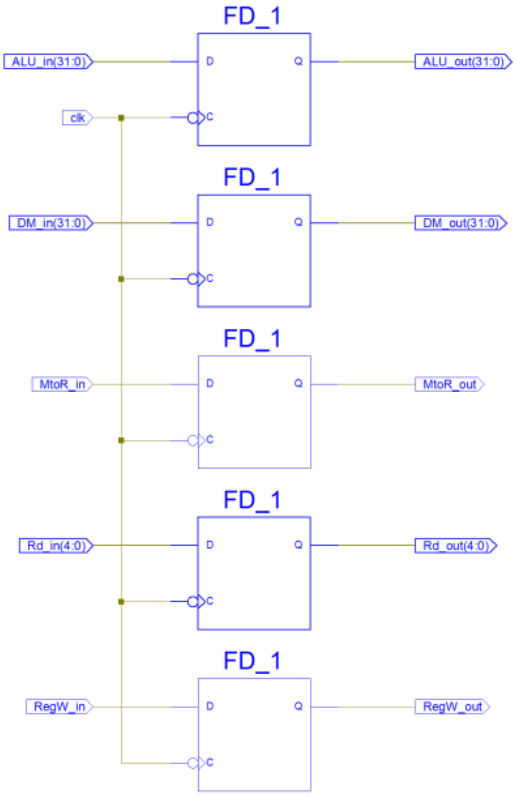

Fig. 11 RTL Schematic for MEM-WB Register

3.2.2 Forwarding Unit

Sometimes data needs to be used before it is written into the register file in a pipelined CPU, so we need to forward the result coming from ALU to the next instruction in advance. The forwarding unit is able to detect the forwarding condition and execute the forwarding.

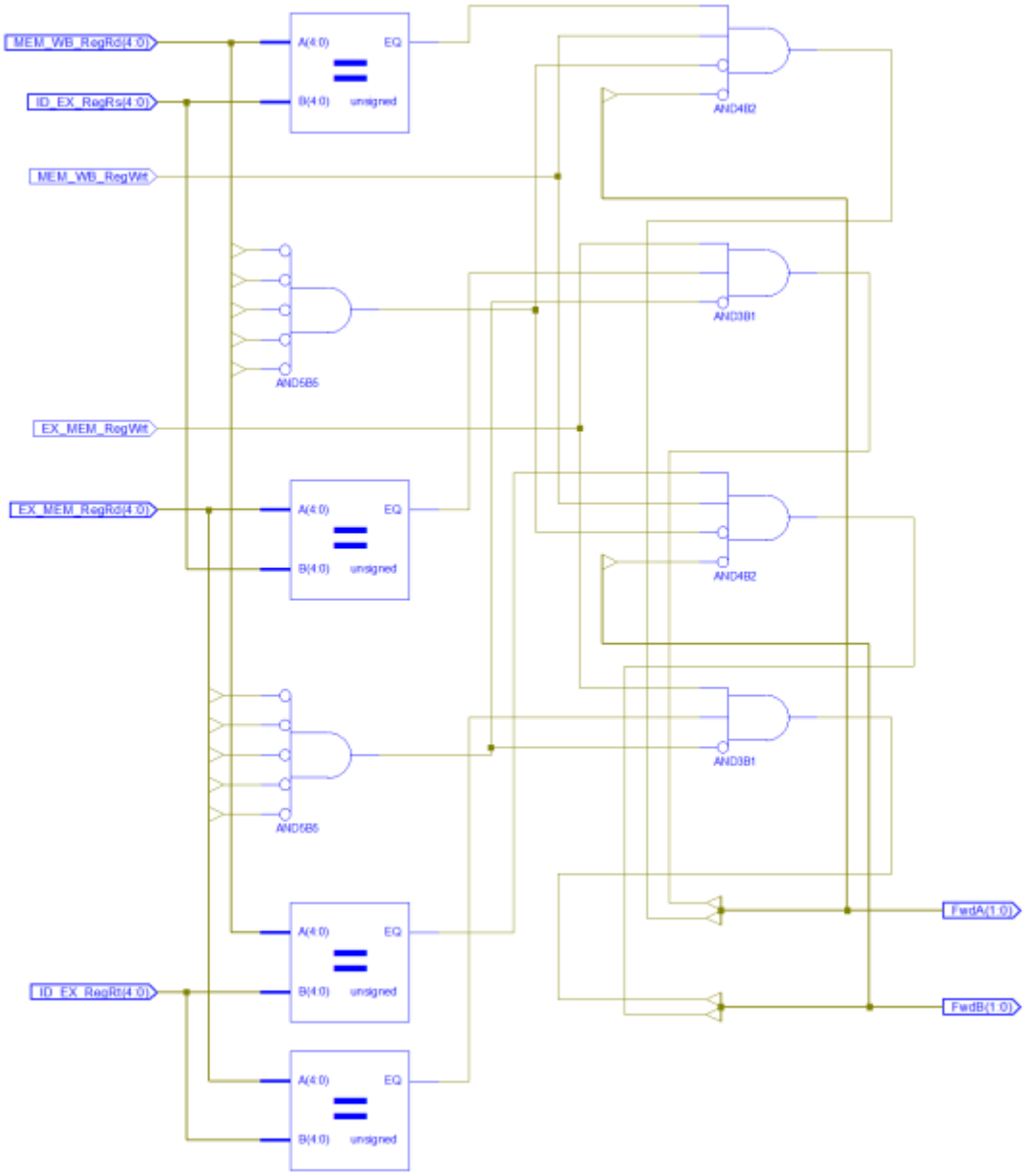

Fig. 12 RTL Schematic for Forwarding Unit

3.2.3 Hazard Detection Unit

This hazard detection unit can detect two kinds of hazard. One is load-use data hazard. Once it detects the load-use data hazard, it will stall the PC and IF/ID stage register by one clock cycle. Then the load-word instruction may be able to use the result forwarding from the ALU output. The other is control hazard caused by branch instructions like “beq”. We make the comparison part at the ID part. If the data we get from the register-file has not been updated yet, we need to let the instruction wait or add some new forwarding unit for it. We use the first way, inserting a nop, to solve the problem.

The hazard detection actually are the module to insert nop and decided next PC.

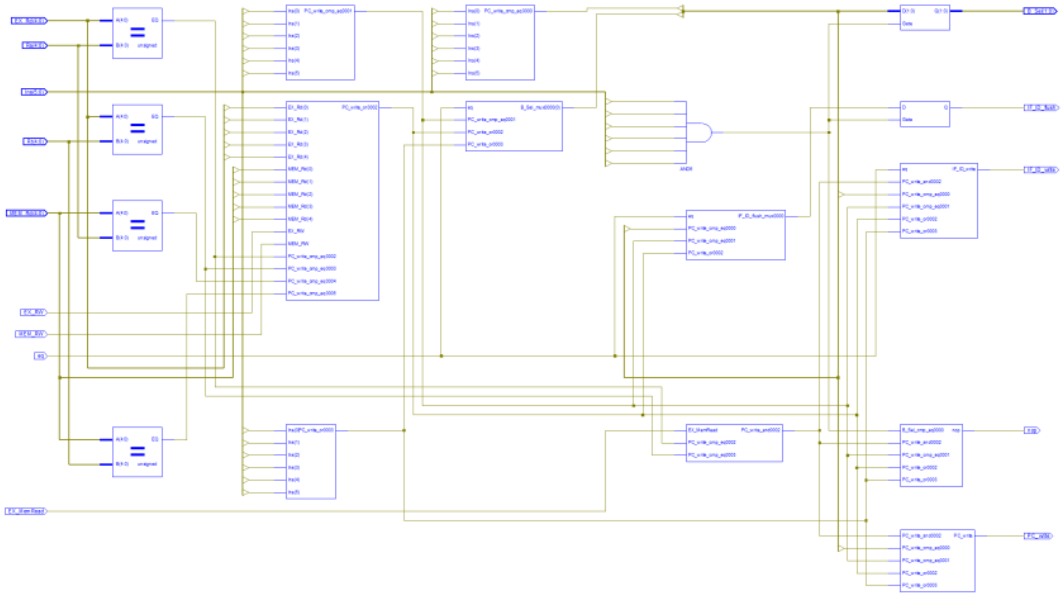

Fig. 13 RTL Schematic for Hazard Detection Unit

3.2.4 Structure of Pipelined CPU

The complete RTL schematic of a pipelined CPU is shown below:

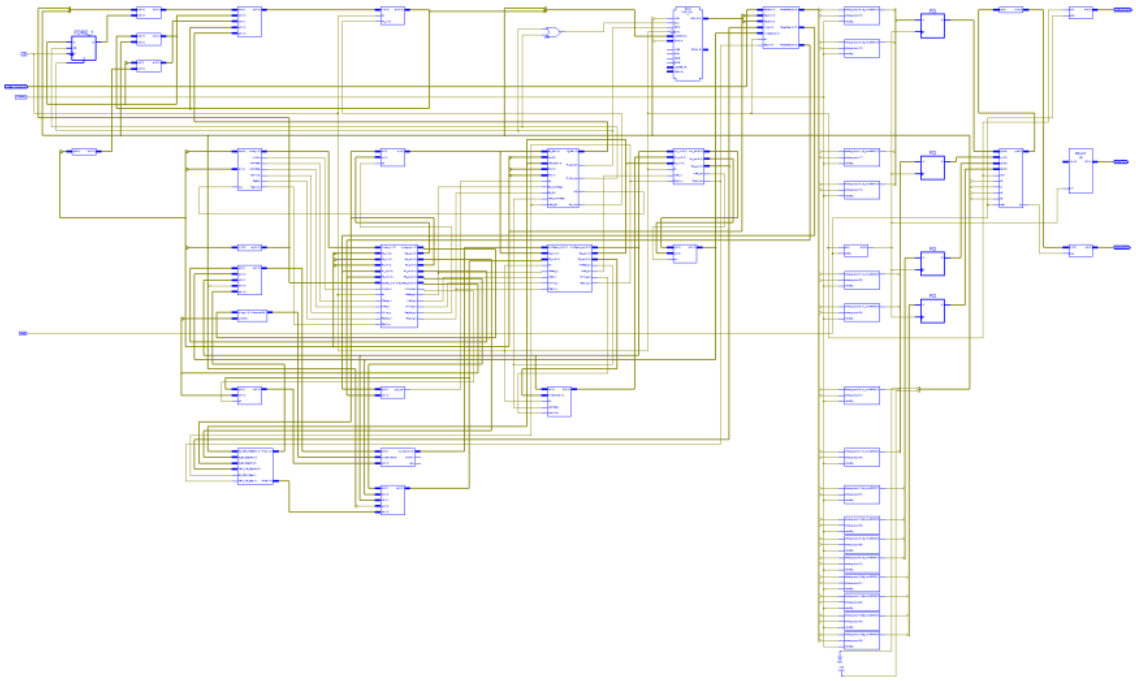

Fig. 14 RTL Schematic for Pipelined CPU

3.3 FPGA Board Implementation

In order to check whether we successfully implement the module with the help of an FPGA board, we use the four SSDs, six switches and eight LED lights on the FPGA board to show any of the values stored in the register file at any time. We set up a top module, and set CPU module and the display module as two sub-modules.

The four SSDs can be used to display either the most or the least significant two bytes of one particular variable in the register file. Five of the six switches will determine the position of this particular variable and the remaining one switch will determine which two bytes will be displayed. The eight LED lights will indicate how many clock cycles have already passed.

4. Testing and Results

4.1 Testing Instructions

```
      addi $s1, $0, 10;
      addi $s0, $0, 10;
      addi $s0, $s0, 10;
      add $s2, $s1, s0;
      addi $t0, $0, 1;
      add $t0, $s2, $t0;
      addi $t1, $0, 1;
      slt $t2, $t1, $t0;
      beq $t1, $t2, TAR;
      addi $s0, $0, 0;
      addi $s1, $0, 0;
      addi $s7, $0, 7;
      addi $s6, $0, 6;
TAR:  sw $s2, 4($0);
      lw $t3, 4($0);
      addi $t4, $t3, 5;
BACK: addi $t4, $t4, 5;
      sub $t5, $t3, t4;
      and $t6, $t3, $t5;
      or $t7, $t5, $t0;
      j TAR2;
      addi $s0, $0, 127;
TAR2: addi $s0, $0, 127;
      addi $s6, $0, 255;
      sw $s6, 4($0);
      lw $s7, 4($0);
      beq $s6, $s7, BACK;
```

A good set of testing instructions as shown above must cover all the instructions required. What is more, all kinds of hazard, including EX data hazard, MEM data hazard, load-use hazard and control hazard, must be perfectly dealt.

4.2 Single-cycle CPU Software Simulation

The clock cycle is 40ns for this software simulation. The result of the simulation is shown below. It can be found that this result follows the real result of the testing instructions.

```
Time:         0 [clk] = 1
```

```
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         0 [clk] = 0
[$s0] = 00000000 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 1
[$s0] = 00000000 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 0
[$s0] = 0000000a [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 1
[$s0] = 0000000a [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000001
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000001
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        10 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        10 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       11 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       11 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000023 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       12 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000023 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       12 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       21 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        21 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        22 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        22 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       25 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       25 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       26 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       26 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       27 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       27 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        28 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        28 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        29 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        29 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        31 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        31 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        33 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        33 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        35 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        35 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        36 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        36 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        38 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        38 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        40 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        40 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = ffffffe7 [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = ffffffe7 [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = ffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        42 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        42 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        43 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        43 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        45 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        45 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        47 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        47 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        49 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        49 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        50 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        50 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 00000002
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffd [$t6] = 0000001c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffd [$t6] = 0000001c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffd [$t6] = 0000001c
[$t7] = fffffffd [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffd [$t6] = 0000001c
[$t7] = fffffffd [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffd [$t6] = 0000001c
[$t7] = fffffffd [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffd [$t6] = 0000001c
[$t7] = fffffffd [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffd [$t6] = 0000001c
```

```
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffdd [$t6] = 0000001c
```

```
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffdd [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 0000001c
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
```

```
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
```

```
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        75 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        75 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffdf3 [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffdce [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffdce [$t6] = 00000012
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffdce [$t6] = 0000000e
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000055 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       100 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       100 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       101 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       101 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc9 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       104 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000008
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       104 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       108 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       108 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       111 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       111 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
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```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       115 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
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```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       115 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       118 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       118 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       122 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = fffffffba [$t6] = 0000001e
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       122 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = fffffffba [$t6] = 0000001a
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = fffffffba [$t6] = 0000001a
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = fffffffba [$t6] = 0000001a
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = fffffffba [$t6] = 0000001a
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = fffffffba [$t6] = 0000001a
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       125 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = fffffffba [$t6] = 0000001a
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       125 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = fffffffb5 [$t6] = 00000014
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000006e [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffb0 [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 00000010
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       150 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       150 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000073 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffab [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 0000000a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000078 [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa6 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000006
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000007d [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       175 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffffa1 [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       175 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 00000000
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000082 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff9c [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 0000001c
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000087 [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff97 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000016
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
Time:       200 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000008c [$t5] = ffffff92 [$t6] = 00000012
[$t7] = ffffff9f [$t8] = 00000000 [$t9] = 00000000
```

4.3 Pipelined CPU Software Simulation

The clock cycle is 40ns for this software simulation. The result of the simulation is shown below. It can be found that this result follows the real result of the testing instructions.

```
Time:         0 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         0 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 0
```

```
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 1
[$s0] = 00000000 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 0
[$s0] = 00000000 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 1
```

```
[$s0] = 0000000a [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 0
[$s0] = 0000000a [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000001
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000001
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        10 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        10 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        11 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        11 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        12 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       12 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000023 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000023 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       21 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       21 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       22 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:       22 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        25 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        25 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        26 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        26 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 00000000 [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        27 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        27 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        28 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        28 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        29 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        29 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        31 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        31 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000028 [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff6 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        33 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        33 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000016
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        35 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        35 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        36 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        36 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        38 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        38 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        40 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        40 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        42 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        42 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        43 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        43 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000002d [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        45 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        45 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffff1 [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 00000010
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
Time:        47 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        47 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        49 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        49 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        50 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = ffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
```

```
run 1000 ns
Time:        50 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000032 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffec [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 0000000c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffffe7 [$t6] = 00000006
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000037 [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe7 [$t6] = 00000006
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe7 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe2 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe2 [$t6] = 00000006
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffe2 [$t6] = 00000002
```

```
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        75 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        75 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000003c [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffffe2 [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 00000002
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = ffffffff [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000041 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffdd [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 0000001c
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
```

```
[$t4] = 00000046 [$t5] = ffffffd8 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = ffffffd8 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       100 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = ffffffd8 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       100 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = ffffffd8 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       101 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = ffffffd8 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       101 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = ffffffd8 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = ffffffd8 [$t6] = 00000018
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       104 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       104 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 00000018
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 00000018
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 00000018
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 00000018
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       108 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 00000018
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       108 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 00000018
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffd8 [$t6] = 00000018
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000046 [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd8 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       111 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       111 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000018
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       115 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       115 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       118 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       118 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       122 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       122 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000004b [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffd3 [$t6] = 00000012
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
```

```
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffd3 [$t6] = 00000012
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = ffffffce [$t6] = 00000012
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = ffffffce [$t6] = 00000012
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       125 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = ffffffce [$t6] = 0000000e
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       125 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = ffffffce [$t6] = 0000000e
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = ffffffce [$t6] = 0000000e
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = ffffffce [$t6] = 0000000e
[$t7] = fffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000050 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffce [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = fffffffc9 [$t6] = 0000000e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 0000000e
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
```

```
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000055 [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc9 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       150 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       150 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000008
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005a [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = ffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = fffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffc4 [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 00000004
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = fffffffbf [$t6] = 0000001e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = fffffffbf [$t6] = 0000001e
[$t7] = fffffffdf [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = fffffffbf [$t6] = 0000001e
[$t7] = fffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
```

```
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 0000005f [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       175 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       175 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffbf [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001e
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000064 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffba [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 0000001a
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 0
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 1
```

```
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 0
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
Time:       200 [clk] = 1
[$s0] = 00000014 [$s1] = 0000000a [$s2] = 0000001e
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 000000ff [$s7] = 000000ff [$t0] = 0000001f
[$t1] = 00000001 [$t2] = 00000001 [$t3] = 0000001e
[$t4] = 00000069 [$t5] = ffffffb5 [$t6] = 00000014
[$t7] = ffffffbf [$t8] = 00000000 [$t9] = 00000000
```

4.4 Hardware Implementation

The clock cycle is one second for the hardware implementation. The result of the implementation is shown below. It can be found that this result follows the real result of the testing instructions.

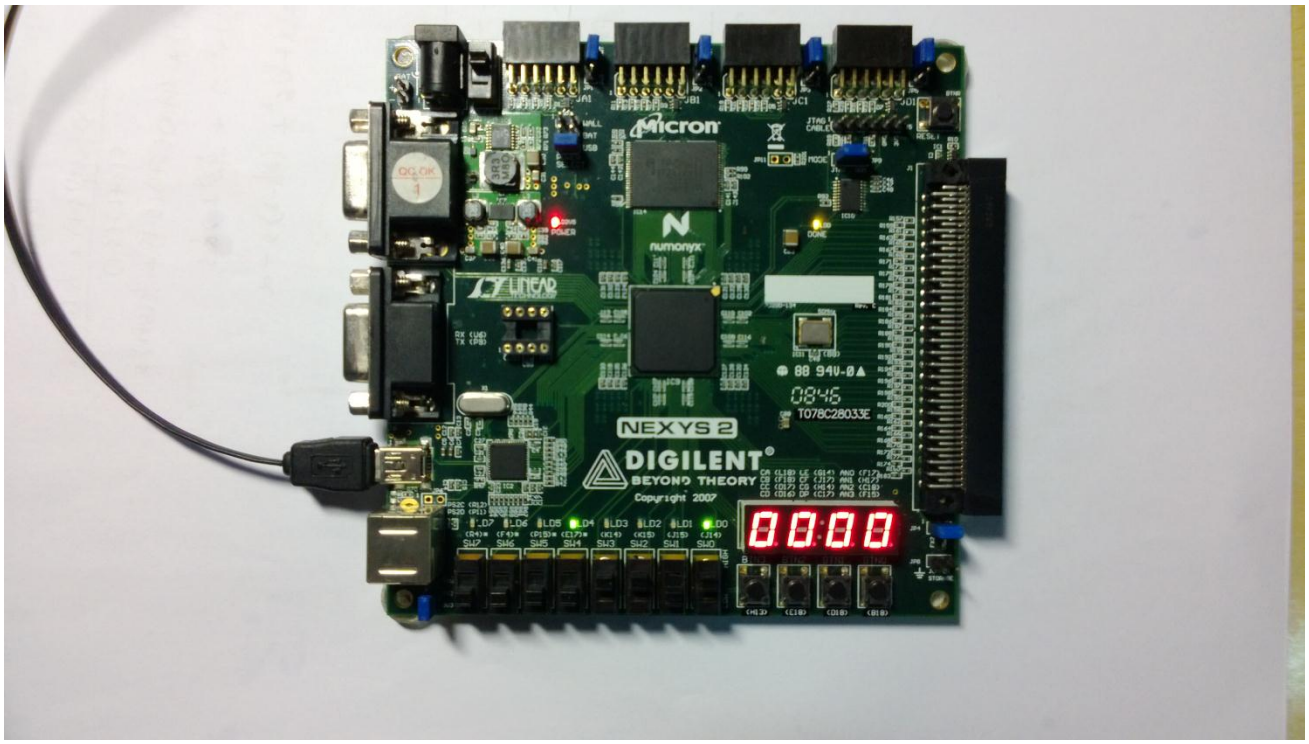

Fig. 15 Hardware Implementation

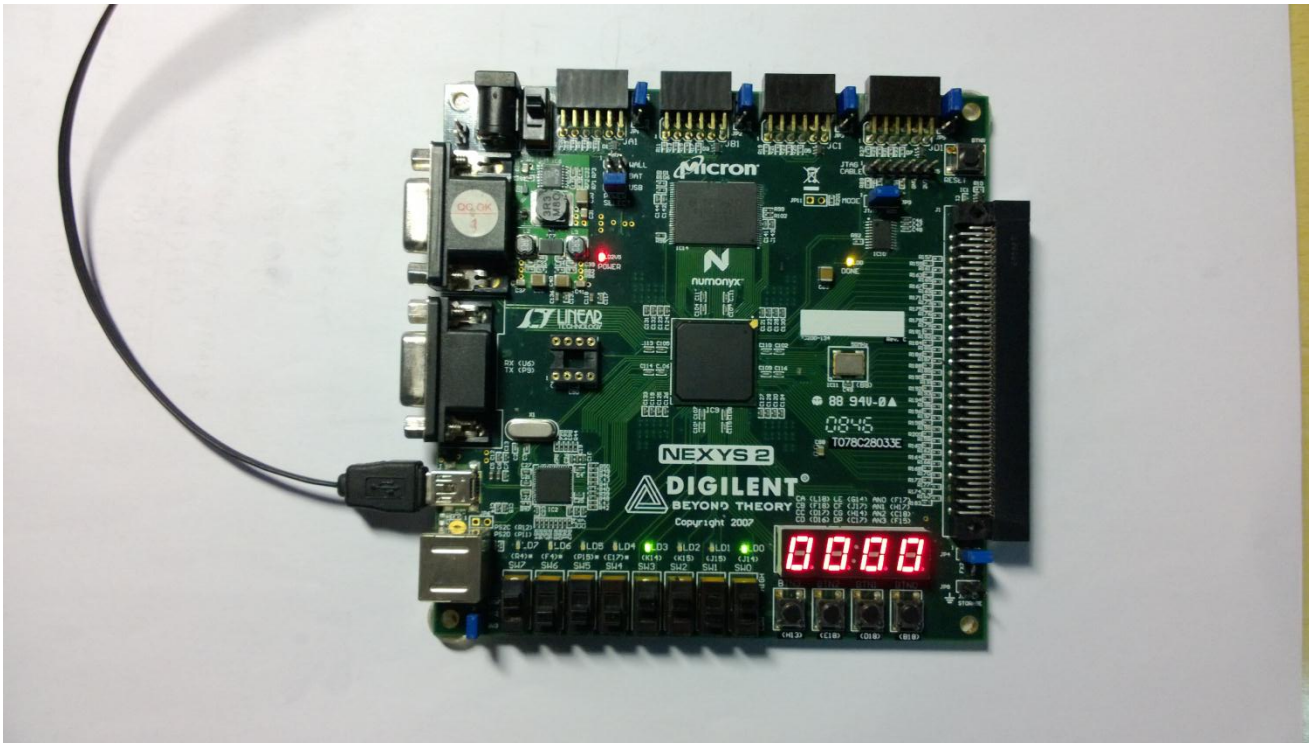

Fig. 16 Hardware Implementation

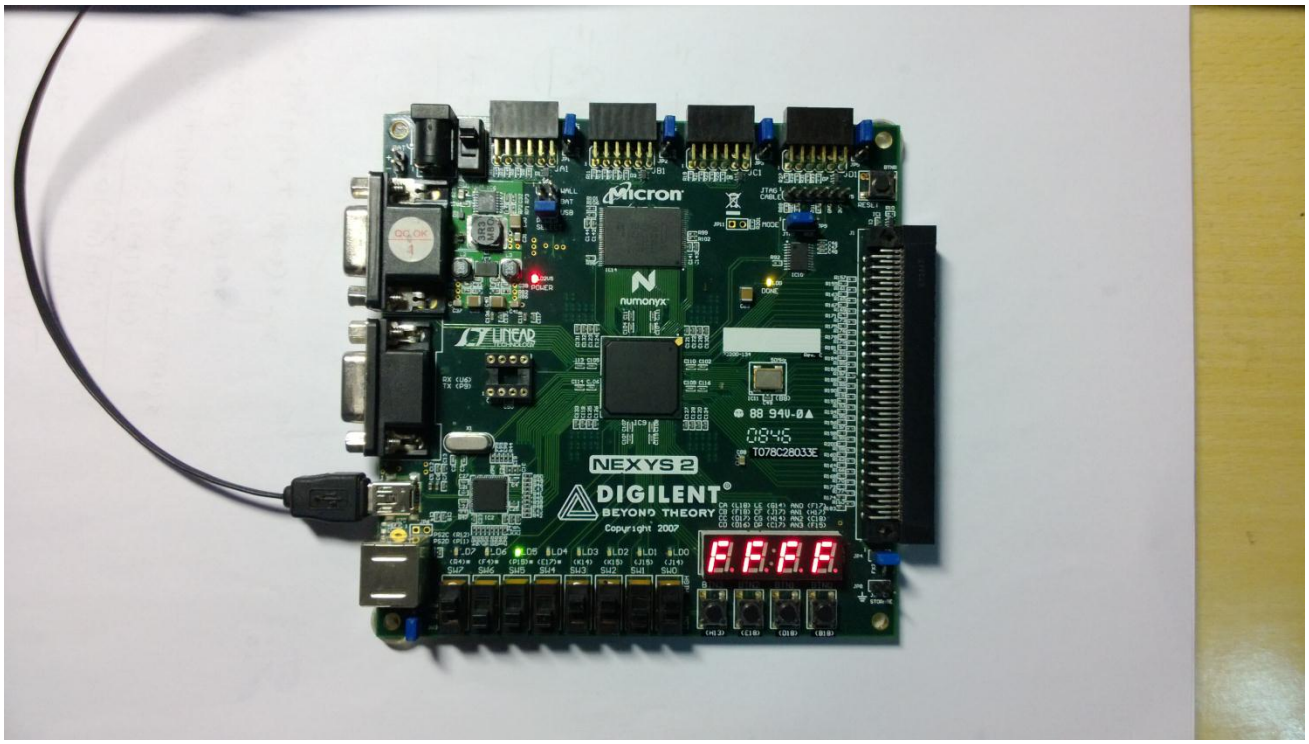

Fig. 17 Hardware Implementation

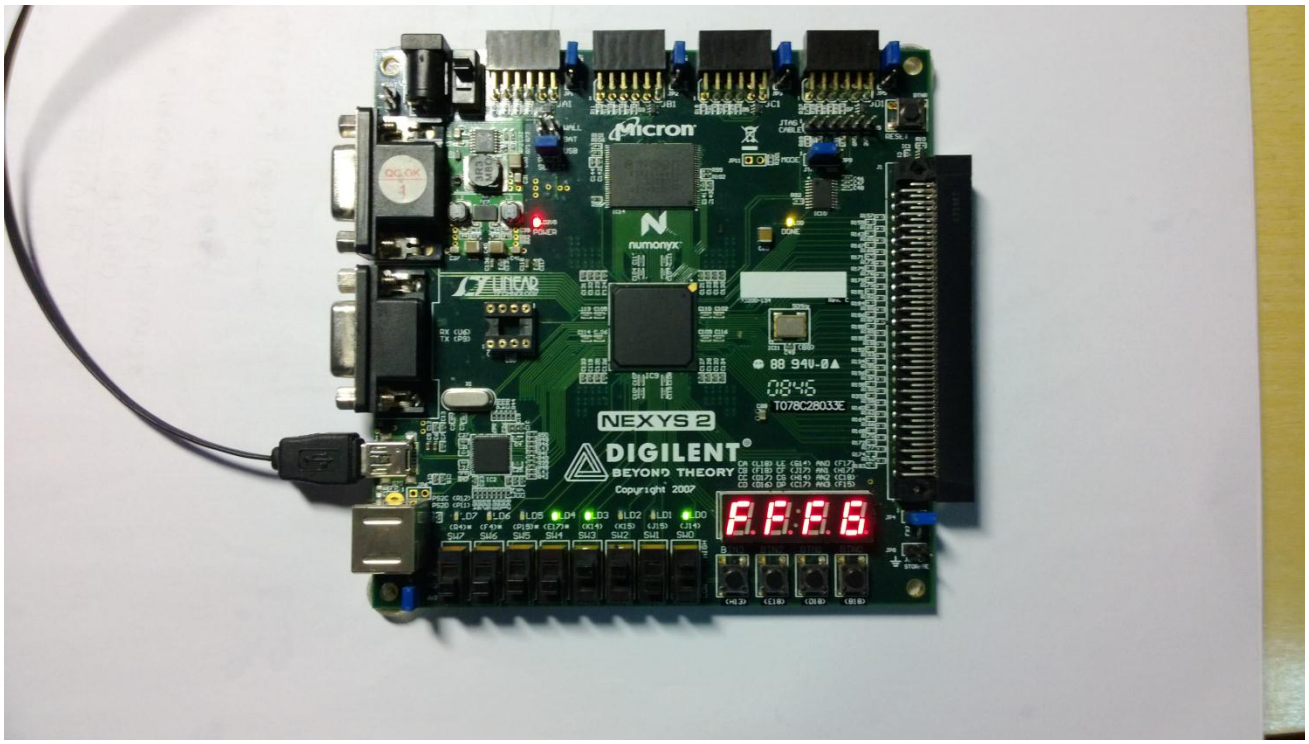

Fig. 18 Hardware Implementation

Fig. 13 and Fig. 14 mean that during the ninth second, the value stored in $t5 is 0. Fig. 17 and Fig. 18 mean that this value will eventually be 0xFFFFFFF6, which is -10.

5. Discussions

In this section we will mainly discuss about some strange problems we met during the project and the solutions to them.

The first problem was caused by an unexpected infinite loop. When we tested the single-cycle CPU, a

strange phenomenon appeared: the clock doesn't run and the simulation time remains 0 ns. We had initialized the clock as well as other inputs in the testbench, but it still didn't work. After checking most of the components, we suddenly found that when closing the Isim, it asked us whether to "save the change", which is abnormal if the simulation is finished even the clock doesn't run. So, we derive that the simulation process is actually still running. By the information shown in Console, we thought we are stuck at some infinite loop while the simulation is initializing the circuit. Since this circuit initialization actually contains not only the initial sentences in the module but also many other constructions, the scanning range was quite large. Finally, with the help of our TA Miss Zheng, we found that there is a piece of code with start "always" but no conditions, thus an infinite loop is caused. And it was possibly because we were about to change the conditions there but forgot to write after we deleted the previous ones.

The second problem was caused by the different "comprehension" to the program between software and hardware. After we successfully simulated the pipelined CPU with Isim, we burnt the program to the board, but the instructions output from the instruction memory was a total mess. Since the program counter was checked fine, we found that there is one sentence "O = Imemory[I[7:2]]" may cause the confusion to the hardware. So we tried to modified the expression as well as the structure of the initialized instruction memory. After several trials, we corrected it as "….." and the program successfully ran on the FPGA board.

The third problem was caused by some unknown data change, which we called "data shaking". When we simulate the load-word instruction, a strange phenomenon appeared: the instruction next to the load-word instruction was not executed, but the PC indeed counted it. What's more, if the instruction next to this one belongs to the same type, then both of them were not executed. But if the instruction next to this one is of another type, then it can run normally. So we thought the problem occurred at the control unit. We monitored all the variables and found a very strange thing: the "nop" signal was 0 all the time, but the program went into the opposite branch: the branch taken if nop = =1. After many trials and analysis, we raised one hypothesis: it is possible that the nop changed suddenly to 1 and then immediately 0 at the moment when the opcode of the load-word instruction came to the control unit, but after it changed back, the control signals didn't change back because we didn't include the "nop" signal into the "always @" conditions. Then we added "nop" as well as other possible affecting signals, and the program ran normally! Though we don't know why the signal shaked, it definitely happened, and we checked all the similar potential problems. This is the last problem we fixed. After that all the tests can be done successfully.

6. Conclusion

After days of analysis, writing and testing, we successfully finish all the tasks: simulation of single-cycle CPU and pipelined CPU, and implementation of pipelined CPU. We are satisfied about our results. We are very happy.

Appendices

Appendix A: Source Code of Single-cycle CPU

```
module single_cycle(clk,check_input,check_output);
    input   [4:0]   check_input;
    input           clk;
    output  [31:0]  check_output;
    wire    [31:0]  check_output1;
    wire    [31:0]  w1,w2,w3,w4,w5,w6,w7,w8,w9,
                    w10,w11,w13,w14,w15,w17,sw1;
    wire    [27:0]  sw;
    wire    [4:0]   w12;
    wire            I0,I1,I2,I3,I4,I6,I7,I8,I9,I10;
    wire    [1:0]   I5;
    wire    [3:0]   I11;
    wire            ww1,ww2,ww3;
    reg     [31:0]  four;

    initial four = 4;
    PC pc(clk,w1,w2);
    Instruction_memory IM (w2,w4);
    RegisterFile RF (clk,w4[25:21],w4[20:16],check_input,
       w12,w15,I8,w8,w9,check_output);
    DataMemory DM (clk,w13,w9,w14,I6,I3);
    control CL (check_output1,w4[31:26],I0,I1,I2,I3,I4,I5,I6,I7,I8);
    ALU_control AC (w4[5:0],I5,I11);
    ALU A1 (w8,w11,I9,w13,I11,ww1);
    mux_n_bit_2_to_1 #(5) m1 (w4[20:16],w4[15:11],w12,I0);
    mux_n_bit_2_to_1 #(32) m2 (w9,w10,w11,I7);
    mux_n_bit_2_to_1 #(32) m3 (w13,w14,w15,I4);
    mux_n_bit_2_to_1 #(32) m4 (w3,w5,w6,I10);
    mux_n_bit_2_to_1 #(32) m5 (w6,w7,w1,I1);
    shift_left_2_n_to_nplus2_bit sl1 (w4[25:0],sw);
    combine c1 (w3[31:28],sw,w7);
    Add ad1 (w2,four,w3);
    Add ad2 (w3,w17,w5);
    shift_left_2_n_bit sl (w10,w17);
    Sign_extend se (w4[15:0],w10);
    assign I10 = I2 & I9;
endmodule


module mux_n_bit_2_to_1(a,b,c,sel);
    parameter       N=1;
    input   [N-1:0]   a,b;
    input             sel;
```

```
    output  [N-1:0]    c;
    reg     [N-1:0]    c;
    always @(a,b,sel)
       begin
          if(sel==0)
             c=a;
          else if(sel==1)
             c=b;
       end
endmodule

module combine(a,b,c);
    input   [3:0]   a;
    input   [27:0]  b;
    output  [31:0]  c;
    assign c[31:28]=a;
    assign c[27:0]=b;
endmodule

module shift_left_2_n_to_nplus2_bit(a,b);
    parameter      N=26;
    input   [N-1:0] a;
    output  [N+1:0] b;
    reg     [N+1:0] b;
    always @(a)
       begin
          b[N+1:2] <=a [N-1:0];
          b[1:0] <= 0;
       end
endmodule

module shift_right_2_n_bit(a,b);
    parameter      N=32;
    input   [N-1:0] a;
    output  [N-1:0] b;
    reg     [N-1:0] b;
    always @(a)
       begin
          b[N-3:0] <= a[N-1:2];
          b[N-1:N-2] <= 0;
       end
endmodule

module shift_left_2_n_bit(a,b);
    parameter      N=32;
    input   [N-1:0] a;
    output  [N-1:0] b;
    reg     [N-1:0] b;
    always @(a)
```

```
        begin
            b[N-1:2] <= a[N-3:0];
            b[1:0] <= 0;
        end
endmodule

module ALU(a,b,zero,ALUresult,ALUcontrol,overflow);
    input   [31:0]  a,b;
    input   [3:0]   ALUcontrol;
    output          zero,overflow;
    output  [31:0]  ALUresult;
    reg             overflow,zero;
    reg     [31:0]  ALUresult;
    always @(ALUcontrol,a,b)
        begin
            zero = (a == b);
            overflow = 0;
            case(ALUcontrol)
                4'b0000:
                    ALUresult = a & b;
                4'b0001:
                    ALUresult=a|b;
                4'b0010:
                    begin
                        ALUresult = a + b;
                        overflow=(~a[31]&&~b[31]&&ALUresult[31])
                            ||(a[31]&&b[31]&&~ALUresult[31]);
                    end
                4'b0110:
                    begin
                        ALUresult = a - b;
                        overflow=(a[31]&&~b[31]&&~ALUresult[31])
                            ||(~a[31]&&b[31]&&ALUresult[31]);
                    end
                4'b0111:
                    ALUresult = (a < b);
                default
                    ALUresult = 0;
            endcase
        end
endmodule

module ALU_control(funct,ALUop,ALUcontrol);
    input   [5:0]   funct;
    input   [1:0]   ALUop;
    output  [3:0]   ALUcontrol;
    reg     [3:0]   ALUcontrol;
    always @(funct, ALUop)
        if(ALUop==2)
```

```
        begin
            case(funct)
                6'b100000: ALUcontrol=4'b0010;
                6'b100010: ALUcontrol=4'b0110;
                6'b100100: ALUcontrol=4'b0000;
                6'b100101: ALUcontrol=4'b0001;
                6'b101010: ALUcontrol=4'b0111;
            endcase
        end
    else if(ALUop==0)
        ALUcontrol=4'b0010;
    else if(ALUop==1)
        ALUcontrol=4'b0110;
    else
        ALUcontrol=0;
endmodule

module control(check_output,Instruction,RegDst,Jump,Branch,MemRead,
    MemtoReg,ALUop,MemWrite,ALUSrc,RegWrite);
    input   [5:0]   Instruction;
    output          RegDst,Jump,Branch,MemRead,
                    MemtoReg,MemWrite,ALUSrc,RegWrite;
    output  [1:0]   ALUop;
    output  [31:0]  check_output;
    reg     [31:0]  check_output;
    reg             RegDst,Jump,Branch,MemRead,MemtoReg,
                    MemWrite,ALUSrc,RegWrite;
    reg     [1:0]   ALUop;
    reg flag;

    initial
        begin
            flag <= 0;
            check_output<=0;
        end

    always @(Instruction)
        if (~flag)
            case(Instruction)
                6'b100011:
                    begin
                        RegDst=0;Jump=0;Branch=0;MemRead=1;MemtoReg=1;
                        ALUop=0;MemWrite=0;ALUSrc=1;RegWrite=1;
                    end//lw
                6'b101011:
                    begin
                        RegDst=0;Jump=0;Branch=0;MemRead=0;MemtoReg=0;
                        ALUop=0;MemWrite=1;ALUSrc=1;RegWrite=0;
                    end//sw
```

```
            6'b000000:
                begin
                    RegDst=1;Jump=0;Branch=0;MemRead=0;MemtoReg=0;
                    ALUop=2;MemWrite=0;ALUSrc=0;RegWrite=1;
                end//add,sub,or,alt
            6'b000100:
                begin
                    RegDst=0;Jump=0;Branch=1;MemRead=0;MemtoReg=0;
                    ALUop=1;MemWrite=0;ALUSrc=0;RegWrite=0;
                end//beq
            6'b000010:
                begin
                    RegDst=0;Jump=1;Branch=0;MemRead=0;MemtoReg=0;
                    ALUop=1;MemWrite=0;ALUSrc=0;RegWrite=0;
                end//j
            6'b001000:
                begin
                    RegDst=0;Jump=0;Branch=0;MemRead=0;MemtoReg=0;
                    ALUop=0;MemWrite=0;ALUSrc=1;RegWrite=1;
                end//addi
            6'b111111:
                begin
                    MemWrite=0; RegWrite=0; flag=1;check_output=1;
                end
        endcase
endmodule

module Sign_extend(in, out);
    input   [15:0] in;
    output  [31:0] out;
    reg     [31:0] out;

    always @(in)
       begin
          out[15:0] <= in;
          if(in[15])
             begin
                out[31:16] <= 16'hFFFF;
             end
          else if (~in[15])
             begin
                out[31:16] <= 16'h0000;
             end
       end
endmodule

module Add(a,b,c);
    input   [31:0]  a,b;
    output  [31:0]  c;
```

```
    assign c = a + b;
endmodule

module PC(clk,in,out);
    input          clk;
    input   [31:0]  in;
    output  [31:0]  out;
    reg     [31:0]  out;

    initial out=0;
    always @(negedge clk) out=in;
endmodule

module DataMemory(clk, I,WriteData,O,MemWrite,MemRead);
    parameter      N = 64;
    input   [31:0]  I,WriteData;
    input          MemWrite,MemRead, clk;
    output  [31:0]  O;
    reg     [31:0]  O;
    reg     [31:0]  im [N-1:0];
    wire    [31:0]  INew;
    integer        i;

    initial
        for(i=0;i<N;i=i+1)
            im[i]=32'b0;

    always @ (negedge clk)
        if (MemWrite)
            if(INew < N)
                im[INew]=WriteData;

    always @ (MemRead, INew)
        if(MemRead==1'b1)
            if(INew < N)
                O=im[INew];

    shift_right_2_n_bit sr (I,INew);
endmodule

module RegisterFile(clk,Read1,Read2,Read0,Write,WriteData,RegWrite,
    ReadData1,ReadData2,ReadData0);
    input   [4:0]   Read1, Read2, Read0, Write;
    input          RegWrite,clk;
    input   [31:0]  WriteData;
    output  [31:0]  ReadData1,ReadData2,ReadData0;
    reg     [31:0]  ReadData1,ReadData2,ReadData0;
    reg     [31:0]  r[31:0];
    integer        k;
```

```
    initial
        for(k=0;k<32;k=k+1)
            r[k]=32'b0;

    always @ (clk)
        $monitor("Clock Time: ",$time,"ns    [clk] = %h\n", clk,
            "[$s0] = %h [$s1] = %h [$s2] = %h\n",r[16],r[17],r[18],
            "[$s3] = %h [$s4] = %h [$s5] = %h\n",r[19],r[20],r[21],
            "[$s6] = %h [$s7] = %h [$t0] = %h\n",r[22],r[23],r[8],
            "[$t1] = %h [$t2] = %h [$t3] = %h\n",r[9],r[10],r[11],
            "[$t4] = %h [$t5] = %h [$t6] = %h\n",r[12],r[13],r[14],
            "[$t7] = %h [$t8] = %h [$t9] = %h",r[15],r[24],r[25]);

    always @ (Read1, Read2, Read0, r[Read1], r[Read2], r[Read0])
        begin
            ReadData1=r[Read1];
            ReadData2=r[Read2];
            ReadData0=r[Read0];
        end
    always@(negedge clk)
        if(RegWrite)
            r[Write]=WriteData;

endmodule

module Instruction_memory(I,O);
    input   [31:0]  I;
    output  [31:0]  O;
    reg     [31:0]  Imemory[64:0];
    reg     [31:0]  O;
    wire    [31:0]  INew;
    integer         k;

    initial
        begin
            for(k=0;k<65;k=k+1)
                Imemory[k] = 32'hFFFFFFFF;
            //You can give your own code block here.
            Imemory[0] = 32'b00100000000010001000000000001010;
            Imemory[1] = 32'b00100000000010000000000000001010;
            Imemory[2] = 32'b00100010000010000000000000001010;
            Imemory[3] = 32'b00000010001100001001000000100000;
            Imemory[4] = 32'b00100000000010000000000000000001;
            Imemory[5] = 32'b00000010010010000100000000100000;
            Imemory[6] = 32'b00100000000010010000000000000001;
            Imemory[7] = 32'b00000001001010000101000000101010;
        //  Imemory[7] = 32'b00000001000010010101000000101010;
            Imemory[8] = 32'b00010001001010100000000000000100;
```

```
            Imemory[9] = 32'b00100000000100000000000000000000;
            Imemory[10] = 32'b00100000000100010000000000000000;
            Imemory[11] = 32'b00100000000101110000000000000111;
            Imemory[12] = 32'b00100000000101100000000000000110;
            Imemory[13] = 32'b10101100000100100000000000000100;
            Imemory[14] = 32'b10001100000010110000000000000100;
            Imemory[15] = 32'b00100001011011000000000000000101;
            Imemory[16] = 32'b00100001100011000000000000000101;
            Imemory[17] = 32'b00000001011011000110100000100010;
            Imemory[18] = 32'b00000001011011010111000000100100;
            Imemory[19] = 32'b00000001101010000111100000100101;
            Imemory[20] = 32'b00001000000000000000000000010110;
             Imemory[21] = 32'b00100000000100000000000001111111;
            Imemory[22] = 32'b00100000000101100000000011111111;
             Imemory[23] = 32'b10101100000101100000000000000100;
            Imemory[24] = 32'b10001100000101110000000000000100;
            Imemory[25] = 32'b00010010110101111111111111110110;
        end
    shift_right_2_n_bit sr (I,INew);

    always @(INew)
        if(INew<65)
            O=Imemory[INew];
endmodule
```

Appendix B: Single-cycle CPU Test Bench

```
module SC_test;
    reg clk;
    reg [4:0]   check_input;
    wire [31:0] check_output;
    single_cycle uut (
        .clk(clk),
        .check_input(check_input),
        .check_output(check_output)
    );
    initial clk = 1;
    always #20 clk = ~clk;
endmodule
```

Appendix C: Source Code of Pipelined CPU and Hardware Implement Unit

```
`timescale 1ns / 1ps
module Pipeline(clk,check_input,mostSig,reset,cNum,anNum,light);
    input       [4:0]   check_input;
    input               clk,reset,mostSig;
    output      [6:0]   cNum;
    output      [3:0]   anNum;
    output      [7:0]   light;
    wire        [31:0]  check_output,w14,w15,w16,w20,w21,w22,w23,
                        w24,w26,w27,w29,w31;
    wire        [31:0]  w1,w2,w3,w4,w5,w6,w7,w8,w9,w10,w11,w12,w13,
                        ww1,ww2,ww3;
    wire        [27:0]  sw1;
    wire        [4:0]   w17,w18,w19,w25,w28,w30;
    wire        [3:0]   I28;
    wire        [1:0]   I1,I6,I13,I25,I26;
    wire        [15:0]  dNum;
    wire        [3:0]   qx;
    wire                dx,clkOut;
    wire                I0,I2,I3,I4,I5,I7,I8,I9,I10,I11,I12,I14,I15,I16,I17;
    wire                zero,overflow,I18,I19,I20,I21,I22,I23,I24,I27;
    reg         [31:0]  four;
    reg         [3:0]   q0, q1, q2, q3;
    reg                 d0, d1, d2, d3;
    reg         [7:0]   light;

    // Initialization
    initial
        begin
            four <= 4;
            light <= 0;
        end

    // Clock Divider
    divider DVD (clkOut, clk, reset);

    // PipiLine CirCuit (clkOut changed to clk for software simulation)
    PL_PC pc1(clkOut,I0,w8,w3);
    Add add1(w3,four,w4);
    Instruction_memory InsM(w3,w5);
    IF_ID if_id(clkOut,w5,w4,I2,I3,w1,w11);
    shift_left_2_n_to_nplus2_bit sl1(w1[25:0],sw1);
    combine cmb(w4[31:28],sw1,w7);
    Sign_extend se(w1[15:0],w2);
    assign w31 = w2 << 2;
    Add add2(w31,w11,w6);
    mux_4_to_1 #(32)M1 (w6,w4,w7,w3,I1,w8);
```

```
    hazard_detection_unit_and_branch hz(w1[31:26],w1[25:21],w1[20:16],
        I4,w19,w25,I15,I20,I18,I22,I0,I1,I2,I3,I27);
    PL_control con(w1[15:11],w1[31:26],I27,I11,I10,I9,I8,I7,I6,I5);
    equal eq(w9,w10,I4);
    PL_RegisterFile RF (clkOut,w1[25:21],w1[20:16],check_input,w28,w29,
        I24,w9,w10,check_output);
    ID_EX id_ex(clkOut,I11,I17,I10,I18,I9,I15,I8,I16,I7,I14,I6,I13,I5,
        I12,w9,w12,w10,w13,w2,w16,w1[20:16],w17,w1[15:11],
        w18,w1[25:21],w30);
    mux_4_to_1 #(32)M2 (w12,w29,w22,ww1,I26,w14);
    mux_4_to_1 #(32)M3 (w13,w29,w22,ww2,I25,w15);
    mux_n_bit_2_to_1 #(5) M4 (w17,w18,w19,I14);
    mux_n_bit_2_to_1 #(32) M6(w15,w16,w20,I12);
    ALU_control ALU_C(w16[5:0],I13,I28);
    ALU AA(w14,w20,zero,w21,I28,overflow);
    forwarding_unit fu(w30, w17, w25, I22, w28, I24,I26,I25);
    EX_MEM ex_mem (clkOut,I17,I21,I18,I22,I15,I20,I16,I19,w21,
        w22,w15,w23,w19,w25);
    PL_DataMemory dm(clkOut,w22,w23,w24,I19,I20);
    MEM_WB mem_wb (clkOut,I21,I23,I22,I24,w24,w26,w22,w27,w25,w28);
    mux_n_bit_2_to_1 #(32) M5 (w27,w26,w29,I23);

    // DisPlay Unit
    an_counter ANCN1 (anNum,clk, reset);
    select SLCT1 (qx,dx, q0,q1,q2,q3, d0, d1, d2,d3,clk,reset);
    decoder_4_16 DCD1 (dNum, qx);
    SSD_4_sign SSD (cNum, dNum, dx);

    always @ (posedge clkOut)
        begin
            light <= light + 1;
            if (mostSig)
                begin
                    q0 <= check_output[19:16]; q1 <= check_output[23:20];
                    q2 <= check_output[27:24]; q3 <= check_output[31:28];
                    d0 <= 1; d1 <= 1; d2 <= 1; d3 <= 1;
                end
            else if (~mostSig)
                begin
                    q0 <= check_output[3:0]; q1 <= check_output[7:4];
                    q2 <= check_output[11:8]; q3 <= check_output[15:12];
                    d0 <= 1; d1 <= 1; d2 <= 1; d3 <= 1;
                end
        end

endmodule

module PL_PC(clk,PC_write,in,out);
    input           clk,PC_write;
```

```
    input   [31:0]  in;
    output  [31:0]  out;
    reg     [31:0]  out;

    initial out <= 0;
    always@(negedge clk)
        if(PC_write)
            out=in;
endmodule

module Add(a,b,c);
    input   [31:0]  a,b;
    output  [31:0]  c;

    assign  c = a + b;
endmodule


module PL_RegisterFile(clk,Read1,Read2,Read0,Write,WriteData,
    RegWrite,ReadData1,ReadData2,ReadData0);
    input   [4:0]   Read1, Read2, Read0, Write;
    input           RegWrite,clk;
    input   [31:0]  WriteData;
    output  [31:0]  ReadData1,ReadData2,ReadData0;
    reg     [31:0]  ReadData1,ReadData2,ReadData0;
    reg     [31:0]  r [31:0];
    integer         k;

    initial
        for(k = 0; k < 32; k = k+1)
            r[k]=32'b0;

    always @ (clk)
        begin
            $monitor("Clock Time: ",$time,"ns    [clk] = %h\n", clk,
                "[$s0] = %h [$s1] = %h [$s2] = %h\n",r[16],r[17],r[18],
                "[$s3] = %h [$s4] = %h [$s5] = %h\n",r[19],r[20],r[21],
                "[$s6] = %h [$s7] = %h [$t0] = %h\n",r[22],r[23],r[8],
                "[$t1] = %h [$t2] = %h [$t3] = %h\n",r[9],r[10],r[11],
                "[$t4] = %h [$t5] = %h [$t6] = %h\n",r[12],r[13],r[14],
                "[$t7] = %h [$t8] = %h [$t9] = %h",r[15],r[24],r[25]);
        end

    always@(Read1, Read2, Read0, r[Read1], r[Read2], r[Read0])
        begin
            ReadData1=r[Read1];
            ReadData2=r[Read2];
            ReadData0=r[Read0];
        end
```

```
    always@(posedge clk)
        if(RegWrite==1'b1)
            r[Write]=WriteData;
endmodule

module Instruction_memory(I,O);
    input   [31:0]  I;
    output  [31:0]  O;
    reg     [31:0]  Imemory [127:0];
    reg     [31:0]  O;
    wire    [31:0]  INew;
    reg     [6:0]   II;
    integer         k;

    initial
        begin
            II=0;
            for(k = 0; k < 128; k = k + 1)
                begin
                    Imemory[k] = 32'hFFFFFFFF;
                end
            //You can give your own code block here.
            Imemory[0] = 32'b00100000000100010000000000001010;
            Imemory[1] = 32'b00100000000100000000000000001010;
            Imemory[2] = 32'b00100010000100000000000000001010;
            Imemory[3] = 32'b00000010001100001001000000100000;
            Imemory[4] = 32'b00100000000010000000000000000001;
            Imemory[5] = 32'b00000010010010000100000000100000;
            Imemory[6] = 32'b00100000000010010000000000000001;
            Imemory[7] = 32'b00000001001010000101000000101010;
//          Imemory[7] = 32'b00000001000010010101000000101010;
            Imemory[8] = 32'b00010001001010100000000000000100;
            Imemory[9] = 32'b00100000000010000000000000000000;
            Imemory[10] = 32'b00100000000010001000000000000000;
            Imemory[11] = 32'b00100000000010111000000000000111;
            Imemory[12] = 32'b00100000000010110000000000000110;
            Imemory[13] = 32'b10101100000100100000000000000100;
            Imemory[14] = 32'b10001100000010110000000000000100;
            Imemory[15] = 32'b00100001011011000000000000000101;
            Imemory[16] = 32'b00100001100011000000000000000101;
            Imemory[17] = 32'b00000001011011000110100000100010;
            Imemory[18] = 32'b00000001011011010111000000100100;
            Imemory[19] = 32'b00000001101010000111100000100101;
            Imemory[20] = 32'b00001000000000000000000000010110;
            Imemory[21] = 32'b00100000000100000000000001111111;
            Imemory[22] = 32'b00100000000010110000000011111111;
            Imemory[23] = 32'b10101100000101100000000000000100;
            Imemory[24] = 32'b10001100000101110000000000000100;
```

```
            Imemory[25] = 32'b00010010110101111111111111110110;
        end

    always @(I)
        begin
            II = I[7:2];
            O = Imemory[II];
        end
endmodule

module shift_right_2_n_bit(a,b);
    parameter           N=32;
    input       [N-1:0] a;
    output      [N-1:0] b;
    reg         [N-1:0] b;

    always @(a)
        begin
            b[N-3:0]<=a[N-1:2];
            b[N-1:N-2]<=0;
        end
endmodule

module IF_ID(clk,Instruction_in,PC_4_in,IF_ID_write,IF_ID_flush,
    Instruction_out,PC_4_out);
    input   [31:0]  Instruction_in,PC_4_in;
    input           clk,IF_ID_write,IF_ID_flush;
    output  [31:0]  Instruction_out, PC_4_out;
    reg     [31:0]  Instruction_out, PC_4_out;

    initial
        begin
            Instruction_out=0;
            PC_4_out=0;
        end

    always @(negedge clk)
        begin
            if(IF_ID_write)
                begin
                    Instruction_out <= Instruction_in;
                    PC_4_out <= PC_4_in;
                end
            if(IF_ID_flush)
                begin
                    Instruction_out <= 0;
                    PC_4_out <= 0;
                end
        end
```

```
endmodule

module shift_left_2_n_to_nplus2_bit(a,b);
    parameter       N=26;
    input   [N-1:0] a;
    output  [N+1:0] b;
    reg     [N+1:0] b;

    always @(a)
        begin
            b[N+1:2] <= a[N-1:0];
            b[1:0] <= 0;
        end
endmodule

module combine(a,b,c);
    input   [3:0]   a;
    input   [27:0]  b;
    output  [31:0]  c;

    assign c[31:28] = a;
    assign c[27:0] = b;
endmodule

module Sign_extend(in, out);
    input   [15:0] in;
    output  [31:0] out;
    reg     [31:0] out;
    always @(in)
        begin
            out[15:0] <= in;
            if(in[15])
                out[31:16] <= 16'hFFFF;
            else if (~in[15])
                out[31:16] <= 16'h0000;
        end
endmodule

module mux_4_to_1(a,b,c,d,sel,o);
    parameter       N=32;
    input   [N-1:0] a,b,c,d;
    input   [1:0]   sel;
    output  [N-1:0] o;
    wire    [N-1:0] w0,w1;

    mux_n_bit_2_to_1 #(N) m1(a,b,w0,sel[0]);
    mux_n_bit_2_to_1 #(N) m2(c,d,w1,sel[0]);
    mux_n_bit_2_to_1 #(N) m3(w0,w1,o,sel[1]);
endmodule
```

```
module mux_n_bit_2_to_1(a,b,c,sel);
    parameter       N=1;
    input   [N-1:0] a,b;
    input           sel;
    output  [N-1:0] c;
    reg     [N-1:0] c;

    always @(a,b,sel)
        if(~sel)
            c=a;
        else if(sel)
            c=b;
endmodule

module equal(a,b,e_or_not);
    parameter       N=32;
    input   [N-1:0] a,b;
    output          e_or_not;

    assign e_or_not=(a==b);
endmodule

module ALU_control(funct,ALUop, ALUcontrol);
    input   [5:0]       funct;
    input   [1:0]       ALUop;
    output  [3:0]       ALUcontrol;
    reg     [3:0]       ALUcontrol;

    always @(funct, ALUop)
        if(ALUop==2)
            begin
                case(funct)
                    6'b100000: ALUcontrol=4'b0010;
                    6'b100010: ALUcontrol=4'b0110;
                    6'b100100: ALUcontrol=4'b0000;
                    6'b100101: ALUcontrol=4'b0001;
                    6'b101010: ALUcontrol=4'b0111;
                endcase
            end
        else if(ALUop==0)
            ALUcontrol=4'b0010;
        else if(ALUop==1)
            ALUcontrol=4'b0110;
        else
            ALUcontrol=0;
endmodule

module ALU(a,b,zero,ALUresult,ALUcontrol,overflow);
```

```
    input   [31:0]  a,b;
    input   [3:0]   ALUcontrol;
    output          zero,overflow;
    output  [31:0]  ALUresult;
    reg             overflow,zero;
    reg     [31:0]  ALUresult;
    always @(ALUcontrol,a,b)
        begin
            zero = (a==b);
            overflow = 0;
            case(ALUcontrol)
                4'b0000:
                    ALUresult=a&b;
                4'b0001:
                    ALUresult=a|b;
                4'b0010:
                    begin
                        ALUresult=a+b;
                        overflow=(~a[31]&&~b[31]&&ALUresult[31])||
                        (a[31]&&b[31]&&~ALUresult[31]);
                    end
                4'b0110:
                    begin
                        ALUresult=a-b;
                        overflow=(a[31]&&~b[31]&&~ALUresult[31])||
                        (~a[31]&&b[31]&&ALUresult[31]);
                    end
                4'b0111:
                    begin
                        ALUresult=(a<b);
                    end
                default
                    ALUresult=0;
            endcase
        end
endmodule

module PL_control(rd,Ins,nop,MemtoReg,RegWrite,MemRead,MemWrite,
    RegDst,ALUop,ALUSrc);
    input   [5:0]   Ins;
    input   [4:0]   rd;
    input           nop;
    output          MemtoReg,RegWrite,MemRead,MemWrite,RegDst,ALUSrc;
    output  [1:0]   ALUop;
    reg             MemtoReg,RegWrite,MemRead,MemWrite,RegDst,ALUSrc;
    reg     [1:0]   ALUop;
    reg             flag;

    initial
```

```
    begin
        MemtoReg=0;
        RegWrite=0;
        MemRead=0;
        MemWrite=0;
        RegDst=0;
        ALUop=0;
        ALUSrc=0;
        flag = 0;
    end

always @(Ins,nop,rd)
    if (~flag)
        begin
            if(~nop)
                begin
                    case(Ins)
                        6'b100011:
                            begin
                                RegDst=0;MemRead=1;MemtoReg=1;ALUop=0;
                                MemWrite=0;ALUSrc=1;RegWrite=1;
                            end//lw
                        6'b101011:
                            begin
                                RegDst=0;MemRead=0;MemtoReg=0;ALUop=0;
                                MemWrite=1;ALUSrc=1;RegWrite=0;
                            end//sw
                        6'b000000:
                            begin
                                if (rd != 0)
                                    begin
                                        RegDst=1;MemRead=0;MemtoReg=0;ALUop=2;
                                        MemWrite=0;ALUSrc=0;RegWrite=1;
                                    end
                                else
                                    begin
                                        RegDst=0;MemRead=0;MemtoReg=0;ALUop=0;
                                        MemWrite=0;ALUSrc=0;RegWrite=0;
                                    end
                            end//add,sub,or,slt
                        6'b000100:
                            begin
                                RegDst=0;MemRead=0;MemtoReg=0;ALUop=1;
                                MemWrite=0;ALUSrc=0;RegWrite=0;
                            end//beq
                        6'b000010:
                            begin
                                RegDst=0;MemRead=0;MemtoReg=0;ALUop=1;
                                MemWrite=0;ALUSrc=0;RegWrite=0;
```

```
                    end//j
                6'b001000:
                    begin
                        RegDst=0;MemRead=0;MemtoReg=0;ALUop=0;
                        MemWrite=0;ALUSrc=1;RegWrite=1;
                    end//addi
                6'b111111:
                    begin
                        MemWrite=0; RegWrite=0; flag=1;
                    end
                default:
                    begin
                        RegDst=0;MemRead=0;MemtoReg=0;ALUop=0;
                        MemWrite=0;ALUSrc=0;RegWrite=0;
                    end
            endcase
        end
    else if(nop)
        begin
            MemtoReg=0;
            RegWrite=0;
            MemRead=0;
            MemWrite=0;
            RegDst=0;
            ALUop=0;
            ALUSrc=0;
        end
end
endmodule

module ID_EX(clk,MtoR_in,MtoR_out,RegW_in,RegW_out,MRead_in,MRead_out,
    MWrite_in,MWrite_out,RegDst_in,RegDst_out,ALUop_in,ALUop_out,
    ALUsrc_in,ALUsrc_out,R1_in,R1_out,R2_in,R2_out,SignExt_in,
    SignExt_out,Rt_in,Rt_out,Rd_in,Rd_out,Rs_in,Rs_out);
    input           clk,MtoR_in,RegW_in,MRead_in,MWrite_in,
                    RegDst_in,ALUsrc_in;
    input   [1:0]   ALUop_in;
    input   [31:0]  R1_in,R2_in,SignExt_in;
    input   [4:0]   Rt_in, Rd_in,Rs_in;
    output          MtoR_out,RegW_out,MRead_out,MWrite_out,
                    RegDst_out,ALUsrc_out;
    output  [1:0]   ALUop_out;
    output  [31:0]  R1_out,R2_out,SignExt_out;
    output  [4:0]   Rt_out,Rd_out,Rs_out;
    reg             MtoR_out,RegW_out,MRead_out,MWrite_out,
                    RegDst_out,ALUsrc_out;
    reg     [1:0]   ALUop_out;
    reg     [31:0]  R1_out,R2_out,SignExt_out;
    reg     [4:0]   Rt_out,Rd_out,Rs_out;
```

```
    initial
        begin
            MtoR_out=0;
            RegW_out=0;
            MRead_out=0;
            MWrite_out=0;
            RegDst_out=0;
            ALUsrc_out=0;
            ALUop_out=0;
            R1_out=0;
            R2_out=0;
            SignExt_out=0;
            Rt_out=0;
            Rd_out=0;
            Rs_out=0;
        end

    always @(negedge clk)
        begin
            MtoR_out=MtoR_in;
            RegW_out=RegW_in;
            MRead_out=MRead_in;
            MWrite_out=MWrite_in;
            RegDst_out=RegDst_in;
            ALUsrc_out=ALUsrc_in;
            ALUop_out=ALUop_in;
            R1_out=R1_in;
            R2_out=R2_in;
            SignExt_out=SignExt_in;
            Rt_out=Rt_in;
            Rd_out=Rd_in;
            Rs_out=Rs_in;
        end
endmodule

module EX_MEM(clk,MtoR_in,MtoR_out,RegW_in,RegW_out,MRead_in,MRead_out,
    MWrite_in,MWrite_out,ALUResult_in,ALUResult_out,
    R2_in,R2_out,Rd_in,Rd_out);
    input           clk,MtoR_in,RegW_in,MRead_in,MWrite_in;
    input   [31:0]  ALUResult_in,R2_in;
    input   [4:0]   Rd_in;
    output          MtoR_out, RegW_out, MRead_out, MWrite_out;
    output  [31:0]  ALUResult_out,R2_out;
    output  [4:0]   Rd_out;
    reg             MtoR_out, RegW_out, MRead_out, MWrite_out;
    reg     [31:0]  ALUResult_out,R2_out;
    reg     [4:0]   Rd_out;
```

```
    initial
        begin
            MtoR_out=0;
            RegW_out=0;
            MRead_out=0;
            MWrite_out=0;
            ALUResult_out=0;
            R2_out=0;
            Rd_out=0;
        end

    always @(negedge clk)
        begin
            MtoR_out=MtoR_in;
            RegW_out=RegW_in;
            MRead_out=MRead_in;
            MWrite_out=MWrite_in;
            ALUResult_out=ALUResult_in;
            R2_out=R2_in;
            Rd_out=Rd_in;
        end
endmodule

module MEM_WB(clk,MtoR_in,MtoR_out,RegW_in,RegW_out,DM_in,
    DM_out,ALU_in,ALU_out,Rd_in,Rd_out);
    input           clk,MtoR_in,RegW_in;
    input   [31:0]  DM_in,ALU_in;
    input   [4:0]   Rd_in;
    output          MtoR_out,RegW_out;
    output  [31:0]  DM_out,ALU_out;
    output  [4:0]   Rd_out;
    reg             MtoR_out,RegW_out;
    reg     [31:0]  DM_out,ALU_out;
    reg     [4:0]   Rd_out;

    initial
        begin
            MtoR_out=0;
            RegW_out=0;
            DM_out=0;
            ALU_out=0;
            Rd_out=0;
        end

    always @(negedge clk)
        begin
            MtoR_out=MtoR_in;
            RegW_out=RegW_in;
            DM_out=DM_in;
```

```
            ALU_out=ALU_in;
            Rd_out=Rd_in;
        end
endmodule

module PL_DataMemory(clk,I,WriteData,O,MemWrite,MemRead);
    parameter          N = 64;
    input      [31:0]  I,WriteData;
    input              MemWrite,MemRead, clk;
    output     [31:0]  O;
    reg        [31:0]  O;
    reg        [31:0]  im [N-1:0];
    wire               INew;
    integer           i;

    initial
        for(i=0;i<N;i=i+1)
            im[i]=32'b0;
    always @ (posedge clk)
        if (MemWrite)
            if(INew < N)
                   im[INew]=WriteData;

    always @ (MemRead,INew)
        if(MemRead)
            if(INew < N)
                O=im[INew];

    shift_right_2_n_bit sr (I,INew);
endmodule

module forwarding_unit(ID_EX_RegRs,ID_EX_RegRt,EX_MEM_RegRd,
    EX_MEM_RegWrt,MEM_WB_RegRd,MEM_WB_RegWrt,FwdA,FwdB);
    input   [4:0]   ID_EX_RegRs,ID_EX_RegRt,EX_MEM_RegRd,MEM_WB_RegRd;
    input           EX_MEM_RegWrt,MEM_WB_RegWrt;
    output  [1:0]   FwdA, FwdB;
    reg     [1:0]   FwdA, FwdB;

    initial
        begin
            FwdA=0;
            FwdB=0;
        end

    always @ (ID_EX_RegRs,ID_EX_RegRt,EX_MEM_RegRd,
        EX_MEM_RegWrt,MEM_WB_RegRd,MEM_WB_RegWrt)
        begin
            if (EX_MEM_RegWrt & (EX_MEM_RegRd != 0) &
                (EX_MEM_RegRd == ID_EX_RegRs))
```

```
            FwdA = 2;
        else if (MEM_WB_RegWrt & (MEM_WB_RegRd != 0) &
            (MEM_WB_RegRd == ID_EX_RegRs))
            FwdA = 1;
        else
            FwdA = 0;

        if (EX_MEM_RegWrt & (EX_MEM_RegRd != 0) &
            (EX_MEM_RegRd == ID_EX_RegRt))
            FwdB = 2;
        else if (MEM_WB_RegWrt & (MEM_WB_RegRd != 0) &
            (MEM_WB_RegRd == ID_EX_RegRt))
            FwdB = 1;
        else
            FwdB = 0;
    end
endmodule

module hazard_detection_unit_and_branch(Ins,Rs,Rt,eq,EX_Rd,MEM_Rd,
    EX_MemRead,MEM_MemRead,EX_RW,MEM_RW,PC_write,B_Sel,
    IF_ID_write,IF_ID_flush,nop);
    input   [5:0]   Ins;
    input   [4:0]   Rs, Rt, EX_Rd, MEM_Rd;
    input           EX_MemRead,MEM_MemRead,eq,EX_RW,MEM_RW;
    output          nop,PC_write,IF_ID_write,IF_ID_flush;
    output  [1:0]   B_Sel;
    reg             nop,PC_write,IF_ID_write,IF_ID_flush;
    reg     [1:0]   B_Sel;

    initial
        begin
            nop=0;
            PC_write=1;
            IF_ID_write=1;
            IF_ID_flush=0;
            B_Sel=1;
        end

    always@(Ins,Rs,Rt,EX_Rd,MEM_Rd,EX_MemRead,MEM_MemRead,EX_RW,MEM_RW,eq)
        if (Ins == 6'b111111)
            begin
                PC_write = 0;
                IF_ID_write=0;
                nop = 1;
            end
        else if(Ins==6'b000010)
            begin
                B_Sel=2;
                PC_write=1;
```

```
            IF_ID_flush=1;
            IF_ID_write=1;
            nop=0;
        end
    else if(Ins==6'b000100)
        begin
            if(((EX_RW==1'b1)&&(EX_Rd!=0)&&(EX_Rd==Rs||EX_Rd==Rt))||
                ((MEM_RW==1'b1)&&(MEM_Rd!=0)&&(MEM_Rd==Rs||MEM_Rd==Rt)))
                begin
                    B_Sel=1;
                    PC_write=0;
                    IF_ID_write=0;
                    IF_ID_flush=0;
                    nop=1;
                end
            else if(eq==1'b1)
                begin
                    B_Sel=0;
                    IF_ID_flush=1;
                    IF_ID_write=0;
                    PC_write=1;
                    nop=0;
                end
            else
                begin
                    B_Sel=1;
                    IF_ID_flush=0;
                    IF_ID_write=1;
                    PC_write=1;
                    nop=0;
                end
        end
    else if(EX_MemRead==1'b1&&(EX_Rd==Rs||EX_Rd==Rt))
        begin
            B_Sel=1;
            PC_write=0;
            IF_ID_write=0;
            IF_ID_flush=0;
            nop=1;
        end
    else
        begin
            B_Sel=1;
            PC_write=1;
            IF_ID_write=1;
            IF_ID_flush=0;
            nop=0;
        end
endmodule
```

```
module an_counter(an, clkIn, reset);
    output [3:0]    an;
    input           reset, clkIn;
    reg     [3:0]   an;
    reg     [31:0]  c;

    always @ (posedge clkIn or posedge reset)
        if (reset)
            begin
                an <= 4'b1110;
                c <= 0;
            end
        else if (c == 32'h0003D090)
            begin
                c <= 0;
                if (~an[0])
                    an <= 4'b1101;
                else if (~an[1])
                    an <= 4'b1011;
                else if (~an[2])
                    an <= 4'b0111;
                else if (~an[3])
                    an <= 4'b1110;
            end
        else
            c <= c + 1;
endmodule

module divider(clkOut, clkIn, clkRst);
    output          clkOut;
    input           clkIn, clkRst;
    reg     [31:0] c;
    reg             clkOut;

    always @ (posedge clkRst or posedge clkIn)
        if (clkRst)
            begin
                clkOut <= 1;
                c <= 0;
            end
        else if (c == 32'h02FAF07F)
            begin
                clkOut <= 1;
                c <= 0;
            end
        else if (c < 32'h017D783F)
            begin
                clkOut <= 1;
```

```
            c <= c + 1;
        end
    else
        begin
            clkOut <= 0;
            c <= c + 1;
        end
endmodule

module select(qx, dx, q0, q1, q2, q3, d0, d1, d2, d3, clkIn, reset);
    input   [3:0]   q0, q1, q2, q3;
    input           d0, d1, d2, d3, clkIn, reset;
    output  [3:0]   qx;
    output          dx;
    reg     [1:0]   flag;
    reg     [3:0]   qx;
    reg     [31:0]  c;
    reg             dx;

    always @ (posedge clkIn or posedge reset)
        if (reset)
            begin
                flag <= 0;
                c <= 0;
                qx <= q0;
            end
        else if (c == 32'h0003D090)
            begin
                flag <= flag + 1;
                c <= 0;
                if (flag == 3)
                    begin
                        qx <= q0;
                        dx <= d0;
                    end
                else if (flag == 0)
                    begin
                        qx <= q1;
                        dx <= d1;
                    end
                else if (flag == 1)
                    begin
                        qx <= q2;
                        dx <= d2;
                    end
                else if (flag == 2)
                    begin
                        qx <= q3;
                        dx <= d3;
```

```
                end
            end
        else
            c <= c + 1;
endmodule

module SSD_4_sign(c, d, disp);
    output [6:0]   c;
    input  [15:0]  d;
    input          disp;

    assign c[0] = (d[1] | d[4] | d[11] | d[13]) | (~disp);
    assign c[1] = (d[5] | d[6] | d[11] | d[12] | d[14] | d[15]) | (~disp);
    assign c[2] = (d[2] | d[12] | d[14] | d[15]) | (~disp);
    assign c[3] = (d[1] | d[4] | d[7] | d[10] | d[15]) | (~disp);
    assign c[4] = (d[1] | d[3] | d[4] | d[5] | d[7] | d[9]) | (~disp);
    assign c[5] = (d[1] | d[2] | d[3] | d[7] | d[13]) | (~disp);
    assign c[6] = (d[0] | d[1] | d[7] | d[12]) | (~disp);
endmodule

module decoder_4_16(d, q);
    output[15:0]    d;
    input [3:0]     q;

    assign d[0] = (~q[3]) & (~q[2]) & (~q[1]) & (~q[0]);
    assign d[1] = (~q[3]) & (~q[2]) & (~q[1]) & (q[0]);
    assign d[2] = (~q[3]) & (~q[2]) & (q[1]) & (~q[0]);
    assign d[3] = (~q[3]) & (~q[2]) & (q[1]) & (q[0]);
    assign d[4] = (~q[3]) & (q[2]) & (~q[1]) & (~q[0]);
    assign d[5] = (~q[3]) & (q[2]) & (~q[1]) & (q[0]);
    assign d[6] = (~q[3]) & (q[2]) & (q[1]) & (~q[0]);
    assign d[7] = (~q[3]) & (q[2]) & (q[1]) & (q[0]);
    assign d[8] = (q[3]) & (~q[2]) & (~q[1]) & (~q[0]);
    assign d[9] = (q[3]) & (~q[2]) & (~q[1]) & (q[0]);
    assign d[10] = (q[3]) & (~q[2]) & (q[1]) & (~q[0]);
    assign d[11] = (q[3]) & (~q[2]) & (q[1]) & (q[0]);
    assign d[12] = (q[3]) & (q[2]) & (~q[1]) & (~q[0]);
    assign d[13] = (q[3]) & (q[2]) & (~q[1]) & (q[0]);
    assign d[14] = (q[3]) & (q[2]) & (q[1]) & (~q[0]);
    assign d[15] = (q[3]) & (q[2]) & (q[1]) & (q[0]);
endmodule
```

Appendix D: Pipelined CPU Test Bench

```
module Pipeline_test;
    reg clk,reset;
    reg [4:0] check_input;
    wire [6:0] cNum;
    wire [3:0] anNum;
    wire [7:0] light;
    Pipeline uut (
        .clk(clk),
        .check_input(check_input),
        .reset(reset),
        .cNum(cNum),
        .anNum(anNum),
        .light(light)
    );
    initial begin
           clk = 1;
           reset = 0;
    end
    always #20 clk = ~clk;
endmodule
```

Appendix E: Simulation Result for TA's Test Case with Single-cycle CPU

```
Time:         0 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         0 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 0
[$s0] = 00000057 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 1
[$s0] = 00000057 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        10 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       10 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       11 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       11 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       12 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       12 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        21 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        21 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        22 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        22 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        25 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        25 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        26 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        26 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        27 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        27 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        28 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        28 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        29 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        29 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        31 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        31 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        33 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        33 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        35 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        35 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        36 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        36 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:               38 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        38 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        40 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        40 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        42 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        42 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        43 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        43 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        45 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        45 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        47 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        47 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        49 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        49 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        50 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        50 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        75 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        75 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 1
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 1
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 1
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       100 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       100 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       101 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       101 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       104 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       104 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       108 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       108 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       111 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       111 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       115 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       115 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       118 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       118 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       122 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       122 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       125 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
run 1000 ns
Time:       125 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       150 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       150 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       175 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       175 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       200 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

Appendix F: Simulation Result for TA’s Test Case with Pipelined CPU

```
Time:         0 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         0 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         1 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         2 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
```

```
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         3 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000000
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         4 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000000 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 1
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         5 [clk] = 0
[$s0] = 00000000 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 1
[$s0] = 00000057 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         6 [clk] = 0
[$s0] = 00000057 [$s1] = 00000000 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         7 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000000
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         8 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000000 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:         9 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000000 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        10 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       10 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       11 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       11 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       12 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       12 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       13 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       14 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       15 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       16 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       17 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       18 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       19 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       20 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        21 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        21 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        22 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        22 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        23 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        24 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        25 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        25 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        26 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        26 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        27 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        27 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        28 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        28 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        29 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        29 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        30 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        31 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        31 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        32 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        33 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        33 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        34 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        35 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        35 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        36 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        36 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        37 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        38 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        38 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        39 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        40 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        40 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        41 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        42 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        42 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        43 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        43 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        44 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        45 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        45 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        46 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        47 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        47 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        48 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
```

```
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        49 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        49 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        50 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        50 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        51 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        52 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        53 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        54 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        55 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        56 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        57 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        58 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        59 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        60 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        61 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        62 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        63 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        64 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        65 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        66 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        67 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        68 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        69 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        70 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        71 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        72 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
```

```
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        73 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        74 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        75 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:        75 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        76 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        77 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        78 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        79 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 1
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        80 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        81 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        82 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        83 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        84 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        85 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        86 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 1
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        87 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        88 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        89 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        90 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        91 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        92 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        93 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 1
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        94 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        95 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        96 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        97 [clk] = 0
```

```
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        98 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:        99 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       100 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       100 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       101 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       101 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       102 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       103 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       104 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       104 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       105 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       106 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       107 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       108 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       108 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       109 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       110 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       111 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       111 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       112 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       113 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       114 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       115 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       115 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       116 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       117 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       118 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       118 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       119 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       120 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       121 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
Time:       122 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       122 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       123 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       124 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       125 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```

```
run 1000 ns
Time:       125 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       126 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       127 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       128 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       129 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       130 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       131 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       132 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       133 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       134 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       135 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       136 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       137 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       138 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       139 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       140 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       141 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       142 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       143 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       144 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       145 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       146 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       147 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       148 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       149 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
```

```
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       150 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       150 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       151 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       152 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       153 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       154 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       155 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       156 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       157 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       158 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       159 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       160 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       161 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       162 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       163 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       164 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       165 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       166 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       167 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       168 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       169 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       170 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       171 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       172 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       173 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
```

```
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       174 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       175 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
run 1000 ns
Time:       175 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       176 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       177 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       178 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       179 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       180 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       181 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       182 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       183 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 1
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       184 [clk] = 0
[$s0] = 00000057 [$s1] = fffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       185 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       186 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       187 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       188 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       189 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       190 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       191 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       192 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       193 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       194 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       195 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       196 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       197 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 1
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       198 [clk] = 0
[$s0] = 00000057 [$s1] = ffffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
```

```
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       199 [clk] = 0
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
Time:       200 [clk] = 1
[$s0] = 00000057 [$s1] = fffffe9 [$s2] = 00000020
[$s3] = 00000037 [$s4] = 00000001 [$s5] = 00000000
[$s6] = 00000000 [$s7] = 00000000 [$t0] = 00000020
[$t1] = 00000037 [$t2] = 00000000 [$t3] = 00000000
[$t4] = 00000000 [$t5] = 00000000 [$t6] = 00000000
[$t7] = 00000000 [$t8] = 00000000 [$t9] = 00000000
```