

testbench.sv



```

1 // Q. Generating 9MHz square waveform for signal sclk, assuming timescale 1ns and 3 digit precision
2
3
4 //solution. Time Period=(1/frequency)=(1/(9X10^6))=111.111 nano-seconds
5 //Half Time Period=(time period)/2=55.555 ns
6
7 //testbench code :-
8 `timescale 1ns/1ps
9 module tb;
10     reg sclk=1'b0;
11     always #55.555 sclk=~sclk;
12     initial begin
13         $dumpfile("dump.vcd");
14         $dumpvars;
15         #200;
16         $finish();
17     end
18 endmodule
19

```

Log

Share

```

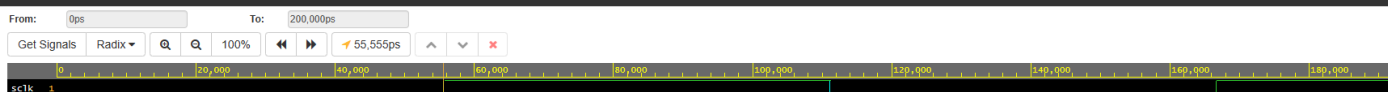
# KERNEL: Time resolution set to 1ps.
# ELAB2: Create instances complete.
# SLP: Started
# SLP: Elaboration phase ...
# SLP: Elaboration phase ... done : 0.0 [s]
# SLP: Generation phase ...
# SLP: Generation phase ... done : 0.0 [s]
# SLP: Finished : 0.1 [s]
# SLP: 0 primitives and 2 (100.00%) other processes in SLP
# SLP: 1 (100.00%) signals in SLP and 0 interface signals
# ELAB2: Elaboration final pass complete - time: 0.1 [s].
# KERNEL: SLP loading done - time: 0.0 [s].
# KERNEL: Warning: You are using the Riviera-PRO EDU Edition. The performance of simulation is reduced.
# KERNEL: Warning: Contact Aldec for available upgrade options - sales@aldec.com.
# KERNEL: SLP simulation initialization done - time: 0.0 [s].
# KERNEL: Kernel process initialization done.
# Allocation: Simulator allocated 4665 kB (elbread=427 elab2=4104 kernel=134 sdf=0)
# KERNEL: ASDB file was created in location /home/runner/dataset.asdb
# RUNTIME: Info: RUNTIME_0068 testbench.sv (16): $finish called.
# KERNEL: Time: 200 ns, Iteration: 0, Instance: /tb, Process: @INITIAL#12_1@.
# KERNEL: stopped at time: 200 ns
# VSIM: Simulation has finished. There are no more test vectors to simulate.
# VSIM: Simulation has finished.
Finding VCD file...
./dump.vcd

```

[2023-07-18 18:34:19 UTC] Opening EPWave...

Done

EPWave



Note: To revert to EPWave opening in a new browser window, set that option on your user page.

→Code:-

// Q. Generating 9MHz square waveform for signal sclk, assuming timescale 1ns and 3 digit precision

//solution. Time Period=(1/frequency)=(1/(9X10⁶))=111.111 nano-seconds

//Half Time Period=(time period)/2=55.555 ns

//testbench code :-

``timescale 1ns/1ps`

`module tb;`

`reg sclk=1'b0;`

`always #55.555 sclk=~sclk;`

`initial begin`

`$dumpfile("dump.vcd");`

`$dumpvars;`

`#200;`

`$finish();`

`end`

`endmodule`