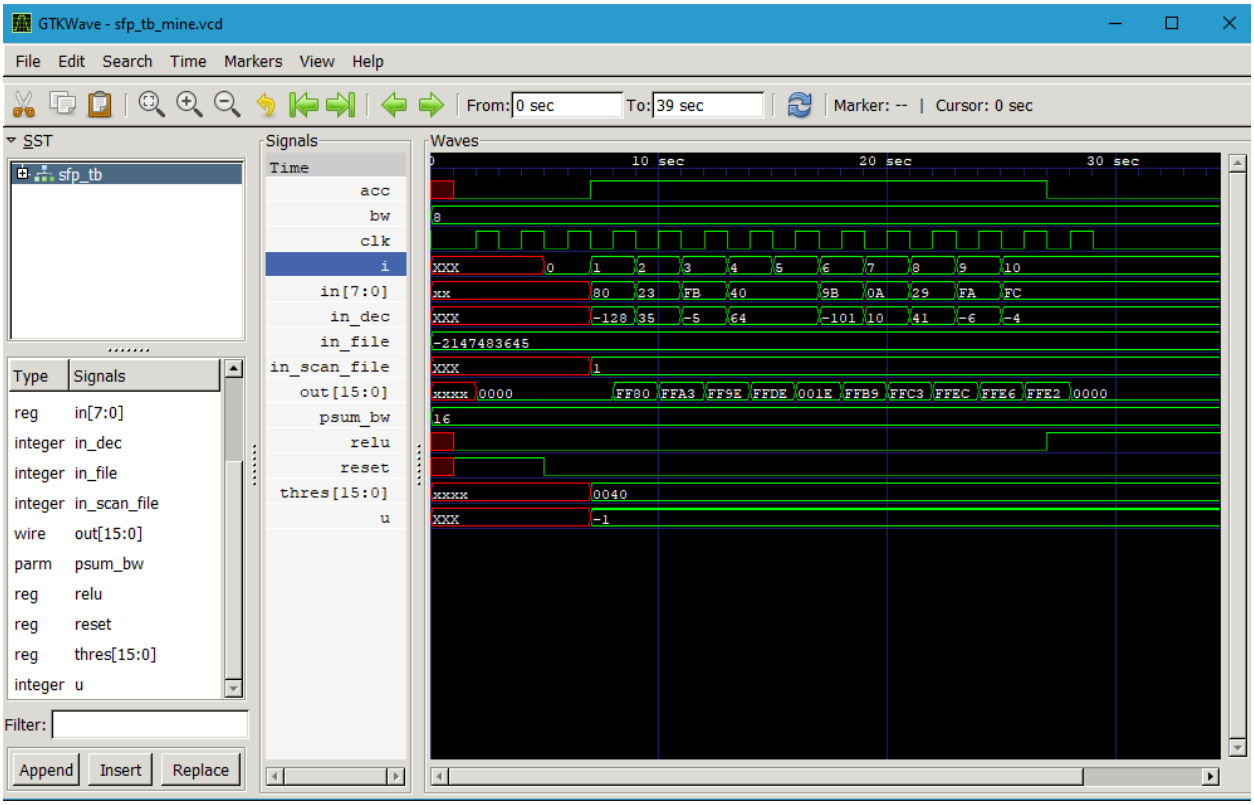
GTKWave - sfp_tb_mine.vcd
File Edit Search Time Markers View Help
From: 0 sec
To: 39 sec
Marker: -- | Cursor: 0 sec
SST
sfp_tb
Type Signals
reg in[7:0]
integer in_dec
integer in_file
integer in_scan_file
wire out[15:0]
parm psum_bw
reg relu
reg reset
reg thres[15:0]
integer u
Filter:
Append Insert Replace
Signals
Time
acc
bw
clk
i
in[7:0]
in_dec
in_file
in_scan_file
out[15:0]
psum_bw
relu
reset
thres[15:0]
u
Waves
10 sec
20 sec
30 sec

```
3   module sfp (out, in, thres, acc, relu, clk, reset);
4
5   parameter bw = 4;
6   parameter psum_bw = 16;
7
8   input clk;
9   input acc;
10  input relu;
11  input reset;
12
13  input signed [bw-1:0] in;
14  input signed [psum_bw-1:0] thres;
15
16  output  signed [psum_bw-1:0] out;
17
18  reg  signed [psum_bw-1:0] psum_q;
19
20
21  assign out = psum_q;           // Assign psum_q to out at the next clock edge
22
23  always @ (posedge clk) begin
24          if(reset) begin              // Synchronous Reset
25              psum_q <= 16'b0;
26          end
27          else if (acc) begin          // When acc == 1, psum_q will increment by in
28              psum_q <= psum_q + in;
29          end
30          else if (relu && psum_q < thres) begin  // When relu == 1 and psum_q < thres, set psum_q to 0
31              psum_q <= 16'b0;
32          end
33          else begin                        // If none of the cases then set to same value
34              psum_q <= psum_q;
35      end
36  end
37        root, 5 days ago • update w1 …
38  endmodule
```