File: C:/My_Designs/Lab 8/lab8/task1/src/send_pos_edge_det_TB.vhd

```vhdl
1   ----------------------------------------------------------------------------
    ----
2   --
3   -- Title       : send_pos_edge_det_tb
4   -- Design      : task1_2
5   -- Author      : Ishabul Haque and Ken Ejinkonye
6   -- Company     : Stony Brook
7   --
8   -- Description : Non self checking testbench for send_pos_edge_det design.
9   --
10  ----------------------------------------------------------------------------
    ----
11
12
13  library ieee;
14  use ieee.std_logic_1164.all;
15  use ieee.numeric_std.all;
16  library work;
17  use work.all;
18
19
20
21  entity send_pos_edge_det_TB is
22
23
24  end send_pos_edge_det_TB;
25
26  architecture tb_architecture of send_pos_edge_det_TB is
27
28
29         --stimulus signals
30      signal rst_bar : std_logic;
31      signal send : std_logic;
32      signal clk : std_logic;
33          --observed signals
34      signal send_en :  std_logic;
35
36      constant period : time := 20ns; --need a much longer period
37                                      -- in actual hardware
38
39  begin
40      -- Unit Under Test port map
41      UUT: entity send_pos_edge_det
42      port map (
43          clk => clk,
44          rst_bar => rst_bar,
45          send => send,
46          send_en => send_en
47          );
48
49      rst_bar <= '0', '1' after period;   -- reset
50
51      clock: process                      -- system clock
52      begin
53          -- clock starts at 0 for 0.5 clock periods
54          for i in 0 to 28 loop
55              wait for period;
```

```
56              clk <= not clk;             -- 28 rising edges
57              wait for period;
58          end loop;                       -- stop clock
59          std.env.finish;
60      end process;
61
62      -- Duration of signal send is 200ns at a high value
63      snd: process
64      begin
65          for i in 0 to 28 loop      --28 rising edges
66              wait for 200ns;        -- Send pulse duration of 200ns
67              send <= not send;
68          end loop;                  --end pulse
69
70          std.env.finish;
71          end process;
72
73  end tb_architecture;
74
```