File: //Mac/Home/Documents/Aldec_Codes/prelab10/prelab10/src/slv_spi_rx_shifter.vhd

```
1   ------------------------------------------------------------------------
    ----
2   --
3   -- Title       : slv_spi_rx_shifter
4   -- Design      : prelab10
5   -- Author      : Dongyun Lee
6   -- Company     : Stony Brook University
7   --
8   ------------------------------------------------------------------------
    ----
9   --
10  -- File        :
    W:\ESE382-Lab\Lab10\prelab10\prelab10\src\slv_spi_rx_shifter.vhd
11  -- Generated   : Sun Apr 21 18:24:49 2024
12  -- From        : interface description file
13  -- By          : Itf2Vhdl ver. 1.22
14  --
15  ------------------------------------------------------------------------
    ----
16  --
17  -- Description :
18  --
19  ------------------------------------------------------------------------
    ----
20
21  library ieee;
22  use ieee.std_logic_1164.all;
23  use ieee.numeric_std.all;
24
25
26  entity slv_spi_rx_shifter is
27      port(
28          rxd        : in  std_logic;           -- Data received from master
29          rst_bar    : in  std_logic;           -- Asynchronous reset
30          sel_bar    : in  std_logic;           -- Selects shifter for
    operation
31          clk        : in  std_logic;           -- System clock
32          shift_en   : in  std_logic;           -- Enable shift
33          rx_data_out: out std_logic_vector(7 downto 0) -- Received data
34      );
35  end entity slv_spi_rx_shifter;
36
37
38  architecture slv_spi_rx_shifter of slv_spi_rx_shifter is
39  begin
40      shift: process (clk, rst_bar)
41      -- variable memory : unsigned(7 downto 0);
42      begin
43          if rst_bar = '0' then
44              rx_data_out <= (others => '0');
45          elsif rising_edge(clk) then
46              if sel_bar = '0' then
47                  if (shift_en = '1') and (rxd = '1' or rxd = '0') then
48                      rx_data_out <= rx_data_out(6 downto 0) & rxd;
49                  end if;
50              end if;
51
```

```
52          end if;
53
54      end process;
55  end slv_spi_rx_shifter;
56
```