COL215: Common Vivado Errors

Naman Jain

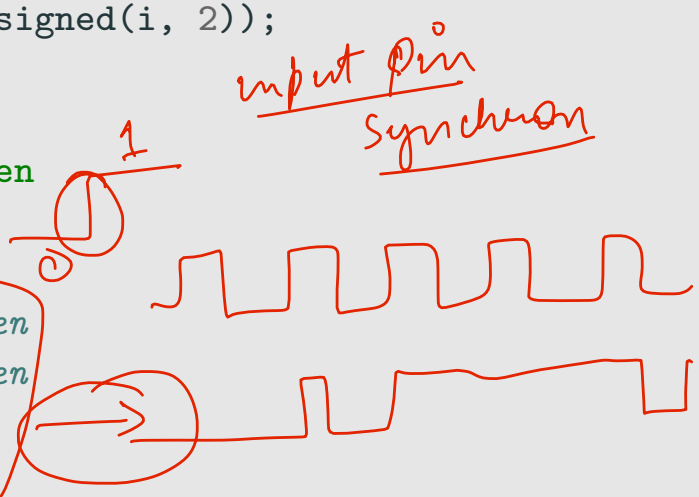
SIT, Indian Institute of Technology

Error overview

- Error 1: Poor placement for routing between an IO pin and BUFG
- Error 2: Rule violation (MDRV-1) Multiple Driver Nets
- Error 3: Rule violation (LUTLP-1) Combinatorial Loop

Error: Poor placement

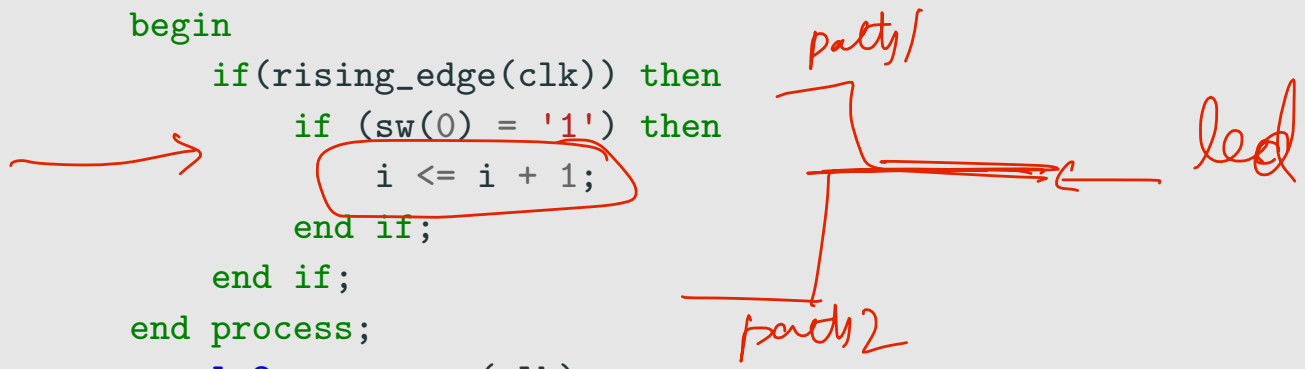
```
1   entity poor_placement is
2     Port (
3       clk: IN std_logic;
4       sw: IN std_logic_vector(13 downto 0);
5       led: OUT std_logic_vector(1 downto 0)
6     );
7   end poor_placement;
8
9   architecture Behavioral of poor_placement is
10  signal i: integer := 0;
11  begin
12      led <= std_logic_vector(to_unsigned(i, 2));
13      sample: process (clk, sw(0))
14      begin
15          if(rising_edge(sw(0))) then
16              i <= i + 1;
17          end if;
18      --    if(rising_edge(clk)) then
19      --        if (sw(0) = '1') then
20      --            i <= i + 1;
21      --        end if;
22      --    end if;
23      end process;
24  end Behavioral;
```



Error: Poor placement

Error: Multiple Driver nets

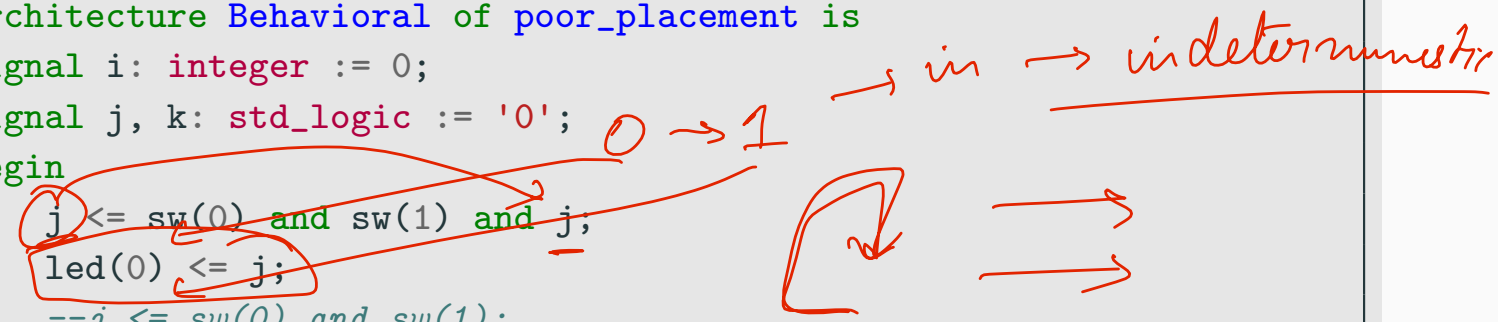
```
1
2   architecture Behavioral of poor_placement is
3   signal i: integer := 0;
4   begin
5      led <= std_logic_vector(to_unsigned(i, 2));
6      sample: process (clk, sw(0))
7      begin
8          if(rising_edge(clk)) then
9              if (sw(0) = '1') then
10                 i <= i + 1;
11             end if;
12         end if;
13     end process;
14     sample2: process (clk)
15     begin
16         if(rising_edge(clk)) then
17             i <= i + 2;
18         end if;
19     end process;
20  end Behavioral;
```



Error: Multiple driver net

Error: Combinatorial Loop

```
1
2   architecture Behavioral of poor_placement is
3   signal i: integer := 0;
4   signal j, k: std_logic := '0';
5   begin
6       j <= sw(0) and sw(1) and j;
7       led(0) <= j;
8       --j <= sw(0) and sw(1);
9
10      --sample3: process(clk)
11      --begin
12      --    if (rising_edge(clk)) then
13      --        k <= j;
14      --    end if;
15      --end process;
16      --led(0) <= j and k
17  end Behavioral;
```



Error: Combinatorial Loop