

```
1  library ieee ;
2  use ieee.std_logic_1164.all;
3
4  entity reg8Bits is
5      port (clk,preSet,clr,load: in std_logic;
6            d: in std_logic_vector(7 downto 0);
7            q : out std_logic_vector(7 downto 0));
8  end reg8Bits;
9  architecture ckt of reg8Bits is
10
11      signal qs: std_logic_vector(7 downto 0);
12
13  begin
14      process (clk ,preSet,clr)
15      begin
16          if preSet = '0' then qs <= "11111111";
17          elsif clr = '0' then qs <= "00000000";
18          elsif clk = '1' and clk ' event then
19              if load = '1' then
20                  qs <= d;
21              end if;
22          end if;
23      end process ;
24      q <= qs;
25  end ckt;
```