

```
1  library ieee;
2  use ieee.numeric_std.all;
3  use IEEE.STD_LOGIC_1164.ALL;
4  use IEEE.STD_LOGIC_ARITH.ALL;
5  use IEEE.STD_LOGIC_UNSIGNED.ALL;
6
7  entity Mod8Counter is
8  port
9  (
10     CLK,reset: in std_logic;
11     dv: out std_logic
12 );
13 end entity;
14
15 architecture behavior of Mod8Counter is
16 begin
17
18     process(CLK,reset)
19
20         variable CountBuffer: std_logic_vector(2 downto 0);
21
22     begin
23         if(reset = '0') then
24             CountBuffer := "000";
25         elsif rising_edge(CLK) then
26             CountBuffer := CountBuffer + 1;
27         end if;
28
29         if(CountBuffer >= 7) then
30             dv <= '1';
31         else
32             dv <= '0';
33         end if;
34
35     end process;
36
37 end architecture;
38
39
40
41
42
```