

Decoder

```
1  library ieee;
2
3  use ieee.std_logic_1164.all;
4
5  entity decoder_3x8 is
6
7      port(a: in std_logic_vector(0 to 2);
8
9           d: out std_logic_vector(0 to 7));
10
11 end decoder_3x8;
12
13 architecture decoder_arch of decoder_3x8 is
14
15 begin
16
17     process(a)
18
19     begin
20
21         case a is
22
23             when "000" => d <= "00000001";
24
25             when "001" => d <= "00000010";
26
27             when "010" => d <= "00000100";
28
29             when "011" => d <= "00001000";
30
31             when "100" => d <= "00010000";
32
33             when "101" => d <= "00100000";
34
35             when "110" => d <= "01000000";
36
37             when "111" => d <= "10000000";
38
39             when others => d <= "00000000";
40
41         end case ;
42
43     end process ;
44
45 end decoder_arch ;
```

