## **DECODER**

```
library IEEE;
use IEEE.STD LOGIC 1164.ALL;
use IEEE.NUMERIC STD.ALL;
entity kris deco is
    Port (
            a: in STD LOGIC VECTOR (2 downto 0);
            b: out STD LOGIC VECTOR (3 downto 0)
end kris_deco;
architecture Behavioral of kris_deco is
begin
    process (a)
    begin
            case a is
                  when (not "000") \Rightarrow b \leq (not "0001");
                  when (not "001") \Rightarrow b \leq (not "0010");
                  when (not "010") \Rightarrow b \leq (not "0100");
                  when (not "011") \Rightarrow b \leq (not "1000");
                  when (not "100") \Rightarrow b \leq (not "0001");
                  when (not "101") \Rightarrow b \leq (not "0010");
                  when (not "110") \Rightarrow b \leq (not "0100");
                  when (not "111") \Rightarrow b \leq (not "1000");
               when others \Rightarrow b \Leftarrow "0000";
            end case;
                                                                                                                               Mux0
        end process;
                                                                                       a[2..0]
end Behavioral;
                                                                                                                                                    b[3..0]
                                                                                                              4'he DATA[3..0]
                                                                                                                               Mux1
               KIIS_deco.vnd 🗸 🤝 Compilation Report - kris_deco 🗶
                                                                                                                     SEL[1..0]
                                                                                                                                       OUT
                                                                                                             4'hd DATA[3..0]
                66 计译图图图图 🖜 💆 🏻 🖃
                 library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
use IEEE.NUMERIC_STD.ALL;
                                                                                                                               Mux2
                Pentity kris_deco is
Port (
    a : in STD_LOGIC_VECTOR (2 downto 0);
    b : out STD_LOGIC_VECTOR (3 downto 0)
                                                                                                                     SEL[1..0]
                                                                                                                                       OUT
                                                                                                              4'hb DATA[3..0]
                                                                                                                              Mux3
                  end kris_deco;
                 architecture Behavioral of kris_deco is
begin
process(a)
begin
                                                                                                                     SEL[1..0]
                                                                                                                                       OUT
                                                                                                              4'h7 DATA[3..0]
                             case a is
when (not
when (not
when (not
            16
17
18
19
20
21
22
23
24
25
26
27
28
                                             "000") => b <=
"001") => b <=
"010") => b <=
"011") => b <=
"100") => b <=
"100") => b <=
"110") => b <=
"111") => b <=
"111") => b <=
rs => b <= "0000
                                                                (not"0001")
(not"0010")
(not"0100")
(not"1000")
(not"1000")
(not"0010");
(not"0100");
(not"1000");
                                                                                 Example for additional cases
Example for additional cases
Example for additional cases
Example for additional cases
                    end process;
end Behavioral;
```