

```
1 LIBRARY ieee ;
2 USE ieee.std_logic_1164.all ;
3
4 entity SevenSegment is
5     port (
6         sw_in_A      : in std_logic_vector(3 downto 0);
7         sw_in_B      : in std_logic_vector(3 downto 0);
8         sw_in_C      : in std_logic_vector(1 downto 0);
9         display_out_0 : out std_logic_vector(6 downto 0);
10        display_out_1 : out std_logic_vector(6 downto 0);
11        display_out_2 : out std_logic_vector(6 downto 0)
12    );
13 end entity SevenSegment;
14
15
16 ARCHITECTURE behave of SevenSegment is
17
18
19 begin
20     my_proc: process (sw_in_A, sw_in_B, sw_in_C)
21
22     begin
23         case (sw_in_A) is
24             when "0000" => display_out_0<= "1000000"; --0
25             when "0001" => display_out_0<= "1111001"; --1
26             when "0010" => display_out_0<= "0100100"; --2
27             when "0011" => display_out_0<= "0110000"; --3
28             when "0100" => display_out_0<= "0011001"; --4
29             when "0101" => display_out_0<= "0010010"; --5
30             when "0110" => display_out_0<= "0000010"; --6
31             when "0111" => display_out_0<= "1111000"; --7
32             when "1000" => display_out_0<= "0000000"; --8
33             when "1001" => display_out_0<= "0010000"; --9
34             when "1010" => display_out_0<= "0001000"; --A
35             when "1011" => display_out_0<= "0000011"; --b
36             when "1100" => display_out_0<= "1000110"; --C
37             when "1101" => display_out_0<= "0100001"; --d
38             when "1110" => display_out_0<= "0000110"; --E
39             when "1111" => display_out_0<= "0001110"; --F
40         end case;
41
42         case (sw_in_B) is
43             when "0000" => display_out_1<= "1000000"; --0
44             when "0001" => display_out_1<= "1111001"; --1
45             when "0010" => display_out_1<= "0100100"; --2
46             when "0011" => display_out_1<= "0110000"; --3
47             when "0100" => display_out_1<= "0011001"; --4
48             when "0101" => display_out_1<= "0010010"; --5
49             when "0110" => display_out_1<= "0000010"; --6
50             when "0111" => display_out_1<= "1111000"; --7
51             when "1000" => display_out_1<= "0000000"; --8
52             when "1001" => display_out_1<= "0010000"; --9
53             when "1010" => display_out_1<= "0001000"; --A
54             when "1011" => display_out_1<= "0000011"; --b
```

```
55     when "1100" => display_out_1<= "1000110"; --C
56     when "1101" => display_out_1<= "0100001"; --d
57     when "1110" => display_out_1<= "0000110"; --E
58     when "1111" => display_out_1<= "0001110"; --F
59 end case;
60
61     case (sw_in_C) is
62     when "00" => display_out_2<= "1000000"; --0
63     when "01" => display_out_2<= "1111001"; --1
64     when "10" => display_out_2<= "0100100"; --2
65     when "11" => display_out_2<= "0110000"; --3
66         when others => display_out_2<= "0110000";
--3
67     end case;
68 end process my_proc;
69 end architecture behave;
70
71
```