```
1   --3x8 Decoder using Case Statement
2   ----------------------------------------------------------------------------------
3   library IEEE;                                   --Importing Library
4   use IEEE.STD_LOGIC_1164.ALL;
5
6   entity decoder_3x8_case is                      --Entity Declaration
7       Port ( x : in  bit;                         --Defining inputs and outputs
8              y : in  bit;
9              z : in  bit;
10             e : out  bit_vector (7 downto 0));
11  end decoder_3x8_case;                           --End of entity
12
13  architecture Behavioral of decoder_3x8_case is     --Architecture Declaration
14  begin
15  process(x,y,z)                                     --Process Initialization
16  variable s : bit_vector(2 downto 0);               --Defining Variables
17  begin
18  s(0) := z;
19  s(1) := y;
20  s(2) := x;
21  case s is                                          --Start of case statement
22     when "000"=> e<= "00000001";
23     when "001"=> e<= "00000010";
24     when "010"=> e<= "00000100";
25     when "011"=> e<= "00001000";
26     when "100"=> e<= "00010000";
27     when "101"=> e<= "00100000";
28     when "110"=> e<= "01000000";
29     when "111"=> e<= "10000000";
30  end case;                                          --End of case
31  end process;                                       --End of Process
32  end Behavioral;                                    --End of architecture
33
```