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BSCpE-3A

DECODER

```vhdl
1   library IEEE;
2   use IEEE.STD_LOGIC_1164.ALL;
3   use IEEE.STD_LOGIC_ARITH.ALL;
4   use IEEE.STD_LOGIC_UNSIGNED.ALL;
5   entity decoder is
6       Port ( s : in  STD_LOGIC_VECTOR (2 downto 0);
7              y : out  STD_LOGIC_VECTOR (7 downto 0));
8   end decoder;
9   architecture Behavioral of decoder is
10  begin
11  with s select
12  y<="00000001" when "000",
13  "00000010" when "001",
14  "00000100" when "010",
15  "00001000" when "011",
16  "00010000" when "100",
17  "00100000" when "101",
18  "01000000" when "110",
19  "10000000" when "111",
20  "00000000" when others;
21  end Behavioral;
```