

PLAZA, ELMO L.

6. VHDL CODE FOR ENCODER WITH PRIORITY (4:2):

CODE:

```
library IEEE;
```

```
use IEEE.STD_LOGIC_1164.all;
```

```
entity w1 is
```

```
    port(
```

```
        a : in STD_LOGIC_VECTOR(3 downto 0);
```

```
        b : out STD_LOGIC_VECTOR(1 downto 0)
```

```
    );
```

```
end w1;
```

```
architecture bhv of w1 is
```

```
begin
```

```
    process(a)
```

```
    begin
```

```
        if (a = (not "0111")) then
```

```
            b <= (not "00") ;
```

```
        elsif (a = ("0110")) then
```

```
            b <= "01";
```

```
        elsif (a = (not "0101")) then
```

```
            b <= "10";
```

```
        elsif (a = (not "0100")) then
```

```
            b <= (not "11");
```

```
        else
```

```
            b <= "ZZ";  -- If no inputs are active
```

```
        end if;
```

```
    end process;
```

```
end bhv;
```

OUTPUT :

