

Práctica 1: Martínez Coronel Brayan Yosafat

Realizar las simulaciones con los siguientes estímulos

```
1 --Practica 1: Martinez Coronel Brayan Yosafat
2 library ieee;
3 use ieee.std_logic_1164.all;
4
5 entity Practical is port (
6     a, b, ref : in std_logic_vector (2 downto 0);
7     sel : in std_logic;
8     display : out std_logic_vector (6 downto 0)
9 );
10 end Practical;
11
12 architecture APractical of Practical is
13     signal auxMux : std_logic_vector (2 downto 0);
14     signal code : std_logic_vector (1 downto 0);
15 begin
16
17     --multiplexor
18     auxMux <= a when sel = '0' else b;
19
20     --comparador
21     process (auxMux, ref)
22     begin
23         if auxMux > ref then
24             code <= "01";
25         elsif auxMux < ref then
26             code <= "10";
27         else
28             code <= "00";
29         end if;
30     end process;
31
32     --decodificador
33     --valores    significado
34     --01        auxMux es mayor
35     --10        ref es mayor
36     --00        son iguales
37     with code select
38     display <= "1111000" when "01",
39               "1001110" when "10",
40               "1001000" when others;
41 end APractical;
```

a	b	ref	sel
3	7	1	0
4	4	4	1
2	1	3	0
1	2	3	1
5	3	2	0
6	5	6	1

Simulaciones del VHDL:

Significado: 78 = Mayor que 4E = Menor que 48 = Igual

Name	Value	Stimulator	0 . 20 . . 40 . . 60 . . 80 . . 100
+ ▢ a	3	<= 011	3
+ ▢ b	7	<= 111	7
+ ▢ display	78		68 78
+ ▢ ref	1	<= 001	1
▢ sel	0	<= 0	

Name	Value	Stimulator	0 . 20 . . 40 . . 60 . . 80 . . 100
+ ▢ a	4	<= 100	4
+ ▢ b	4	<= 100	4
+ ▢ display	48		48
+ ▢ ref	4	<= 100	4
▢ sel	1	<= 1	

Name	Value	Stimulator	0 . 20 . . 40 . . 60 . . 80 . . 100
+ ▢ a	2	<= 010	2
+ ▢ b	1	<= 001	1
+ ▢ display	4E		4C 4E
+ ▢ ref	3	<= 011	3
▢ sel	0	<= 0	

Name	Value	Stimulator	0 20 40 60 80 100
+ a	1	<= 001	1
+ b	2	<= 010	2
+ display	4E		4C 4E
+ ref	3	<= 011	3
sel	1	<= 1	

Name	Value	Stimulator	0 20 40 60 80 100
+ a	5	<= 101	5
+ b	3	<= 011	3
+ display	78		68 78
+ ref	2	<= 010	2
sel	0	<= 0	

Name	Value	Stimulator	0 20 40 60 80 100
+ a	5	<= 101	5
+ b	3	<= 011	3
+ display	78		68 78
+ ref	2	<= 010	2
sel	0	<= 0	

Name	Value	Stimulator	0 20 40 60 80 100
+ a	6	<= 110	6
+ b	5	<= 101	5
+ display	4E		4C 4E
+ ref	6	<= 110	6
sel	1	<= 1	

C22V10

sel	=	1		24		* not used
ref(2)	=	2		23		= display(4)
ref(1)	=	3		22		= display(1)
ref(0)	=	4		21		* not used
b(2)	=	5		20		= display(2)
b(1)	=	6		19		* not used
b(0)	=	7		18		* not used
a(2)	=	8		17		= display(5)
a(1)	=	9		16		= display(0)
a(0)	=	10		15		= display(3)
not used *	=	11		14		= display(6)
not used *	=	12		13		* not used

Simulaciones en Proteus

1111000 = Mayor que

1001110 = Menor que

1001000 = Igual





