Integrated Circuits Design by FPGA

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Lecture 7

Multiplexer Circuit

Objectives of this Lecture

- To implement Multiplexer circuit using **WHEN** statement..
- To implement Multiplexer circuit using **CASE** statement.
- To indicate the difference between **WHEN** statement & **CASE** statement.

Contents of this Lecture

- Multiplexer project using **WHEN** statement.

- Multiplexer project using **CASE** statement

Multiplexer project using WHEN statement.

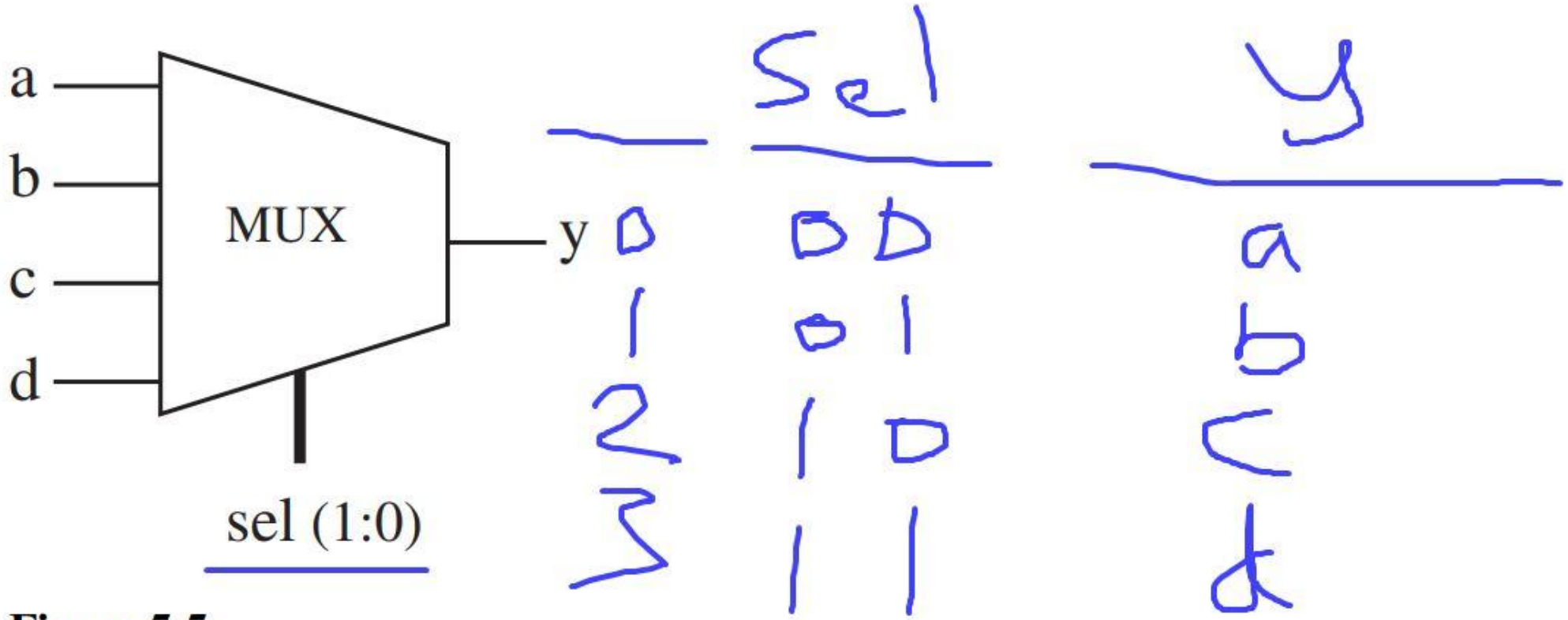
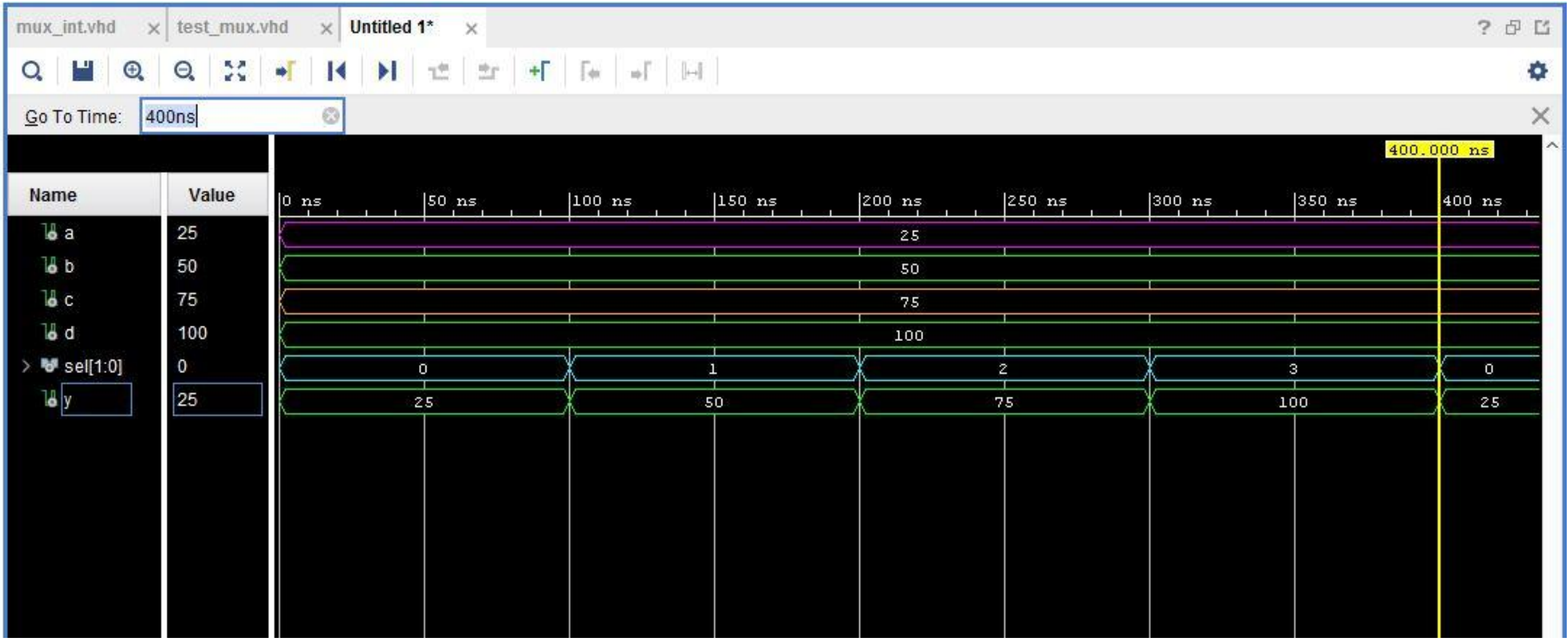


Figure 5.5
Multiplexer of example 5.2.

Multiplexer project using WHEN statement.

```
1  LIBRARY ieee;
2  USE ieee.std_logic_1164.all;
3  ----------------------------------------
4  ENTITY mux IS
5  PORT ( a, b, c, d: IN INTEGER RANGE 0 TO 100;
6         sel: IN STD_LOGIC_VECTOR (1 DOWNTO 0);
7          y:  OUT INTEGER RANGE 0 TO 100);
8  END mux;
9  ----------------------------------------
10 ARCHITECTURE mux1 OF mux IS
11 BEGIN
12 y <= a WHEN sel="00" ELSE
13       b WHEN sel="01" ELSE
14       c WHEN sel="10" ELSE
15       d;
16 END mux1;
17 ----------------------------------------
```

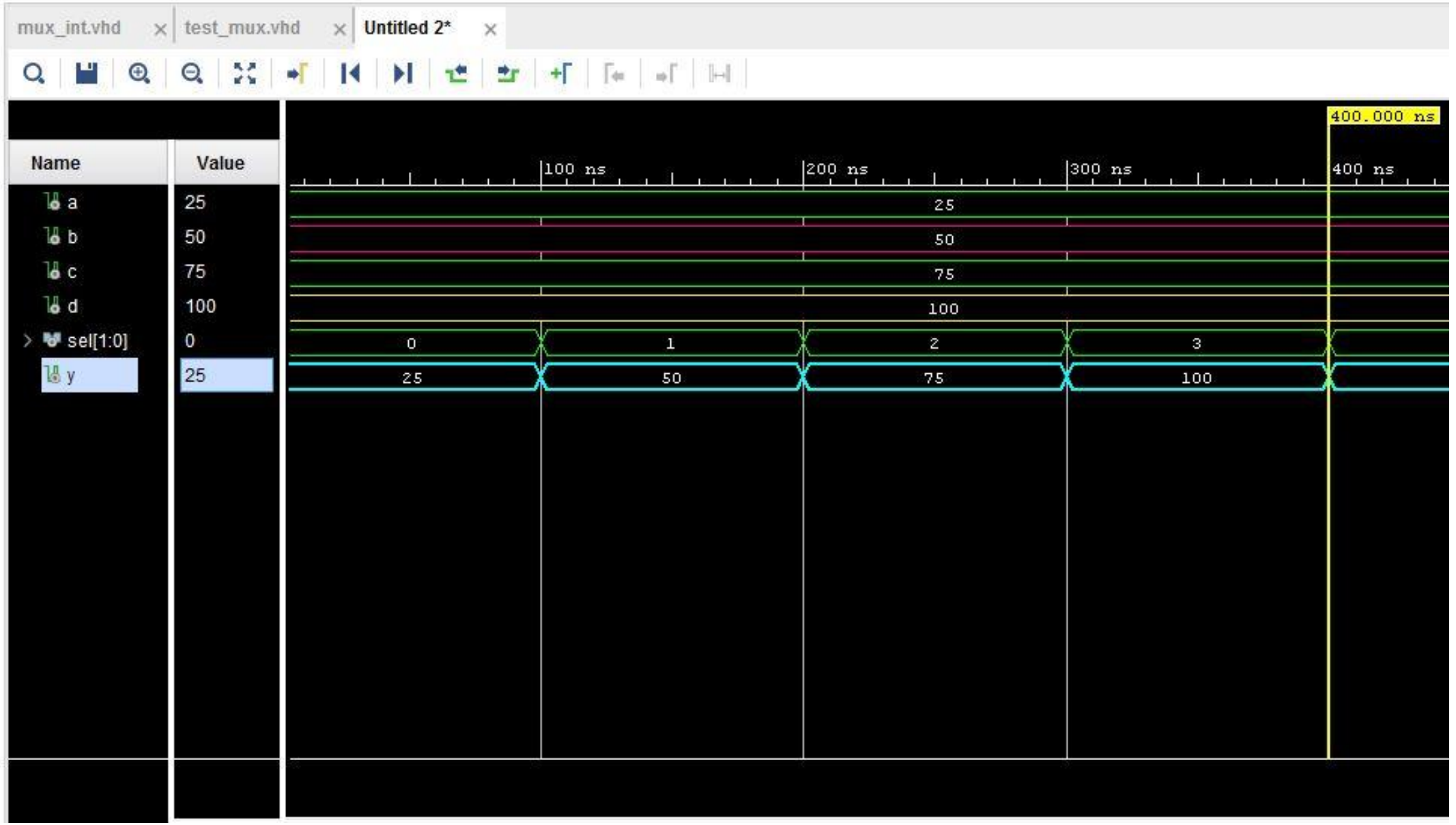
Multiplexer project using WHEN statement.



Multiplexer project using CASE statement.

FPGA is my GAME

Multiplexer project using CASE statement.



Assignments

- The assignments will be attached to your class room.

End of lecture 7

Any Questions ?