

CSE 458 Lab Final

Full Marks: 40

Time: 1 Hour

1. **NUMBER** = Your registration number **MOD** 7

Modify the comparator code given in the classroom such that it has **3 inputs** and **1 output**. The three inputs represent a decimal value (from 0 to 7) and output is 1 if the value is greater than **NUMBER** else it is 0.

Test all 8 possibility in your testbench.

(check example at the bottom if you are confused).

Upload the following to classroom

- | | |
|--|----|
| a. Verilog code in .v format | 5 |
| b. Testbench code in .v format | 5 |
| c. Screenshot of the output in .png format | 10 |

2. Consider the following function

$$Y = (A.B) + (C.D)$$

- | | |
|--|---|
| a. Draw Schematic of the function (upload handwriting by scan) | 5 |
| b. Draw Euler's path of the function (upload handwriting by scan) | 5 |
| c. Draw Stick Diagram of the function (upload handwriting by scan) | 5 |
| d. Implement the design in Microwind (upload .msk file) | 5 |

	Or	
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3. Consider the following function

$$Y = (A+B).(C+D)$$

- | | |
|--|---|
| a. Draw Schematic of the function (upload handwriting by scan) | 5 |
| b. Draw Euler's path of the function (upload handwriting by scan) | 5 |
| c. Draw Stick Diagram of the function (upload handwriting by scan) | 5 |
| d. Implement the design in Microwind (upload .msk file) | 5 |

Example of 1.

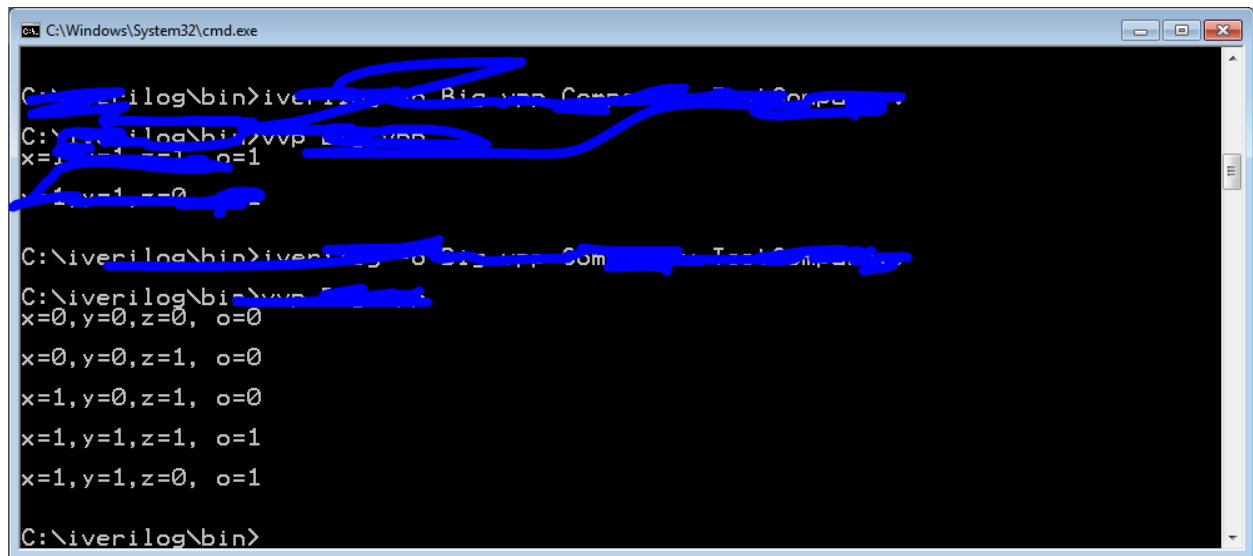
My registration number is 0000005

So, Number = 5

So, it will produce the following table:

X	Y	Z	OUTPUT
0	0	0	0
0	0	1	0
1	0	1	0
1	1	1	1
1	1	0	1

And so on



The screenshot shows a Windows command prompt window with the title bar "C:\Windows\System32\cmd.exe". The window contains several lines of text, some of which are obscured by blue scribbles. The visible text includes:

```
C:\iverilog\bin>iverilog -o C:\iverilog\bin\out\out.vvp test.v
C:\iverilog\bin>vvp out.vvp
x=0,y=0,z=0, o=0
x=0,y=0,z=1, o=0
x=1,y=0,z=1, o=0
x=1,y=1,z=1, o=1
x=1,y=1,z=0, o=1
C:\iverilog\bin>
```

You should test all 8 cases.