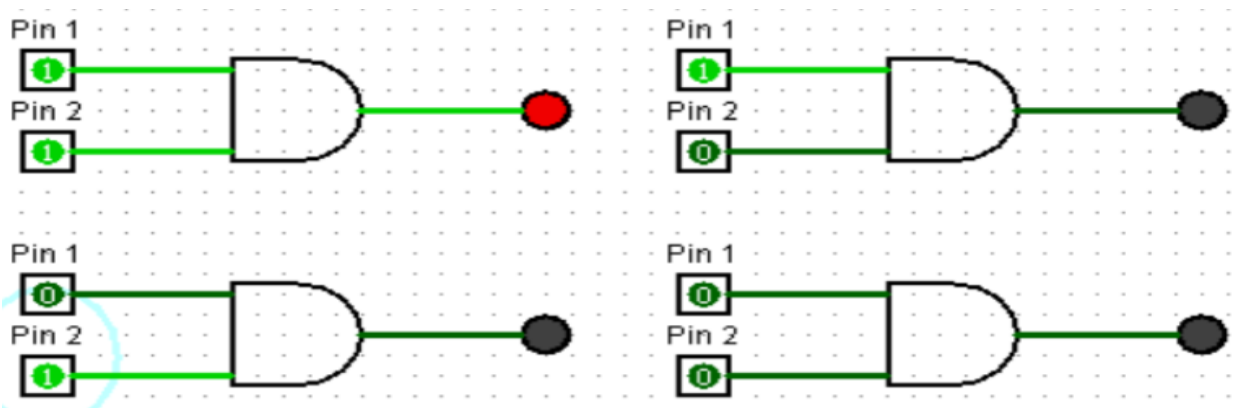# Week 1/lab01 - Computer Systems Assignment **(COS-1004).**

Student: NGUYEN QUANG ANH (Dave Nguyen).
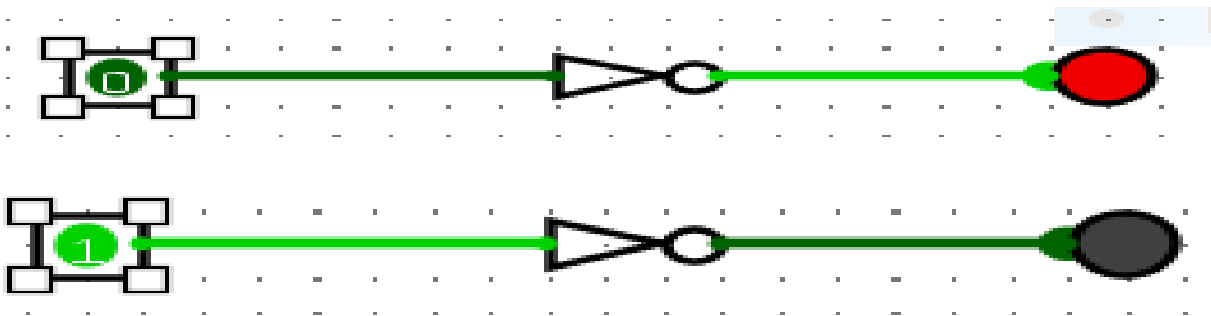
ID: 104697710.

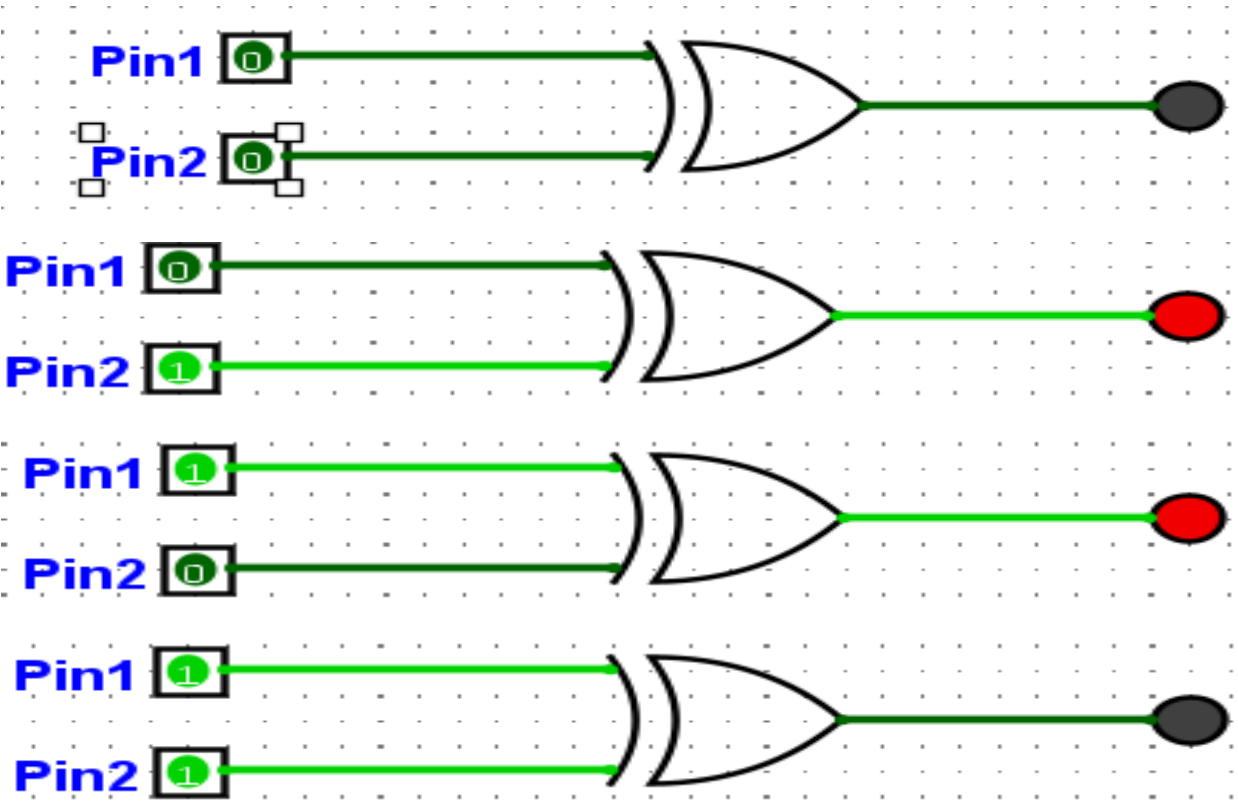## Q5: Simple circuit (2 pins, 1 AND gate and 1 LED).

Pin 1	Pin 2	Output
1	1	1
1	0	0
0	1	0
0	0	0

Q8: Simple circuit (1 Pin, 1 NOT gate, 1 LED).

Pin	Output

0	1
1	0

Q10: Simple circuit (2 Pins, 1 XOR gate, 1 LED)

Pin 1	Pin 2	Output
0	0	0
0	1	1
1	0	1
1	1	0

Q12:

A	B	Y (A XOR B)	Y' (A XNOR B)
0	0	0	1
0	1	1	0

1	0	1	0
1	1	0	1

Q13:

Half-Adder

Pin1

Pin2

Sum_output
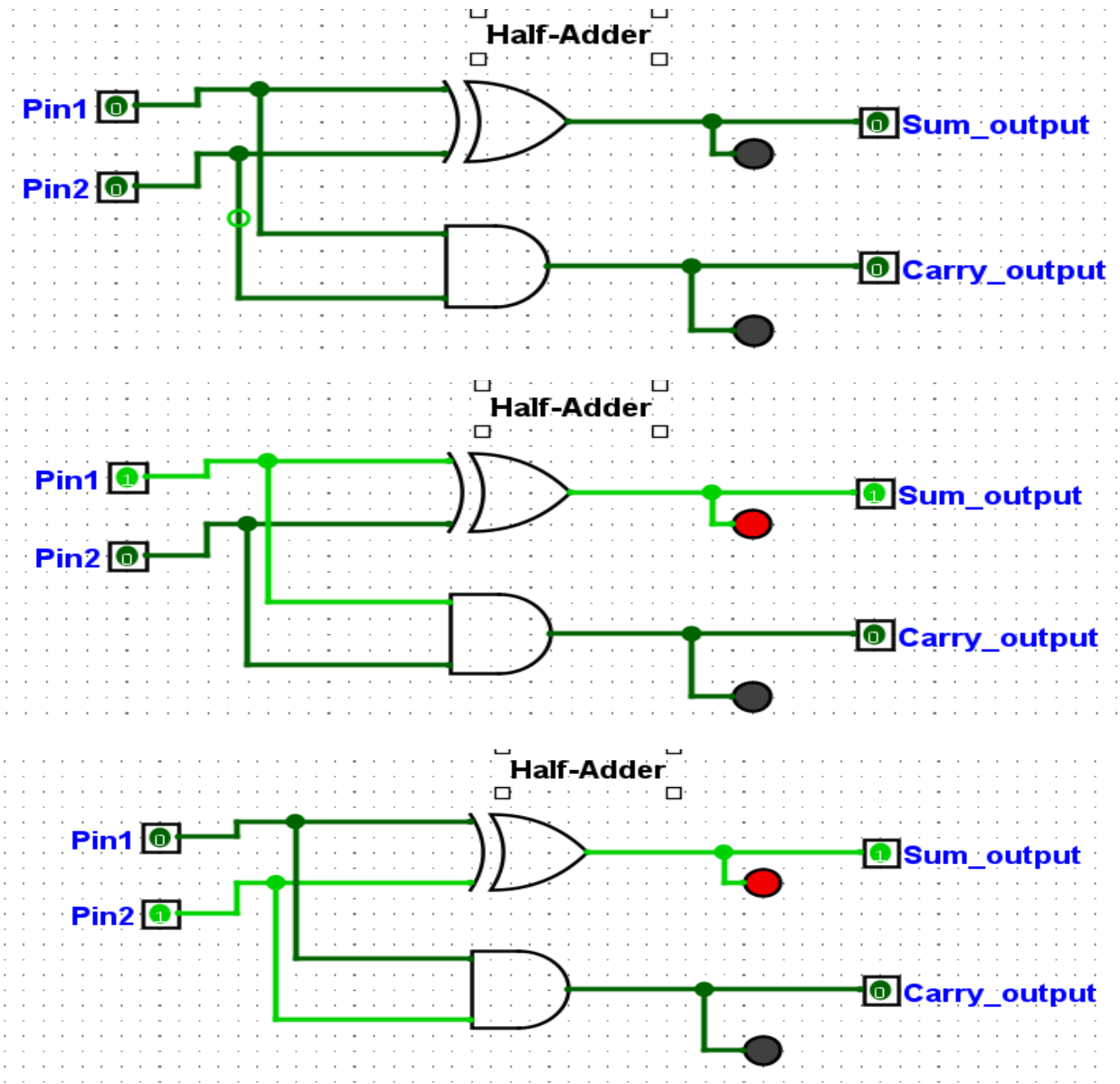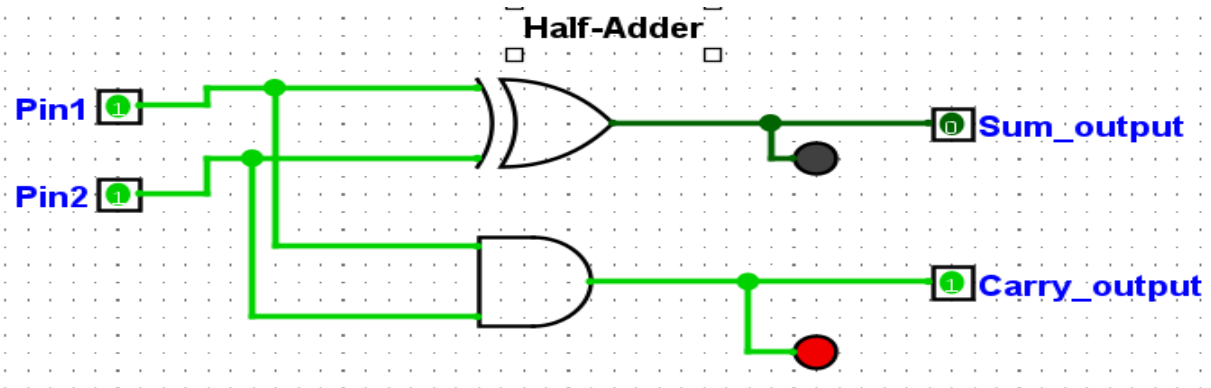
Carry_output

Q15:

Input 1	Input 2	Input 3	Sum output	Carry out
0	0	0	0	0
0	1	0	1	0
1	0	0	1	0
1	1	0	0	1
0	0	1	1	0
0	1	1	0	1
1	0	1	0	1
1	1	1	1	1

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output

Full-Adder

Input1

Input2

Input3

Sum_output

Carry_output