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**2022-BSE-064**

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**2022-BSE-052**

**Group#B**

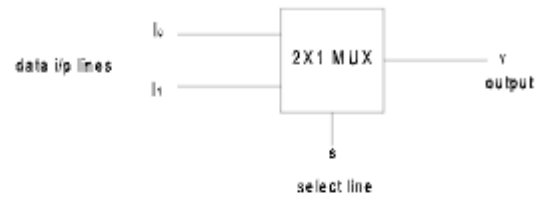
**Computer architecture and logic design**

**LAB#03**

**Submitted to Sir Shoaib**

## Block diagram of 2x1 MUX

Open with Google Docs

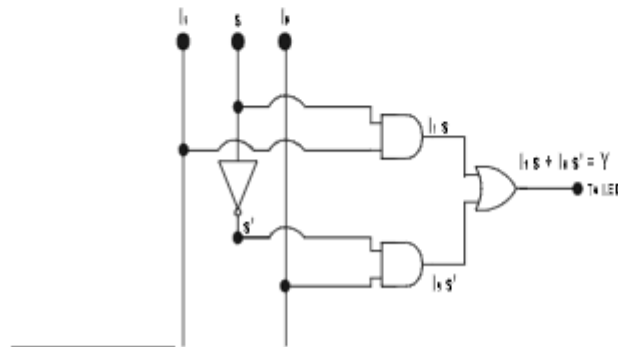


The function table of 2x1 Mux is

Select line	o/p
S	Y
0	$I_0$
1	$I_1$

The Boolean function for 2x1 Mux is:  $Y = I_1 s + I_0 s'$

Logic Diagram of 2x1 Mux is

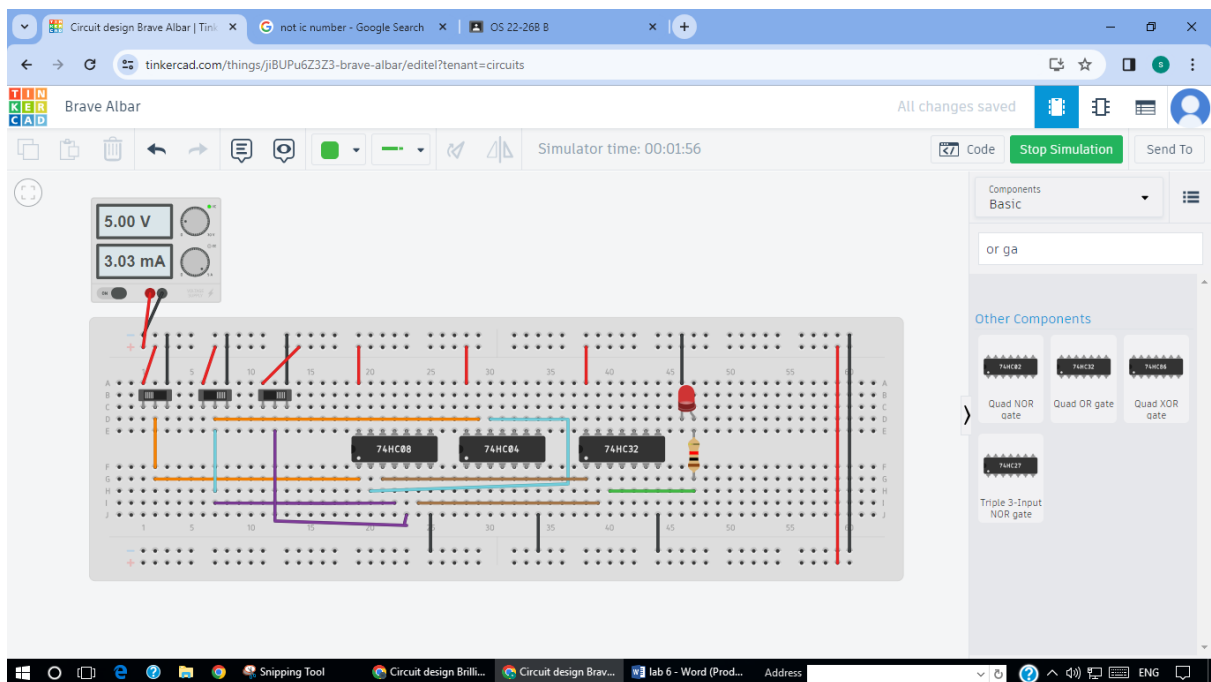
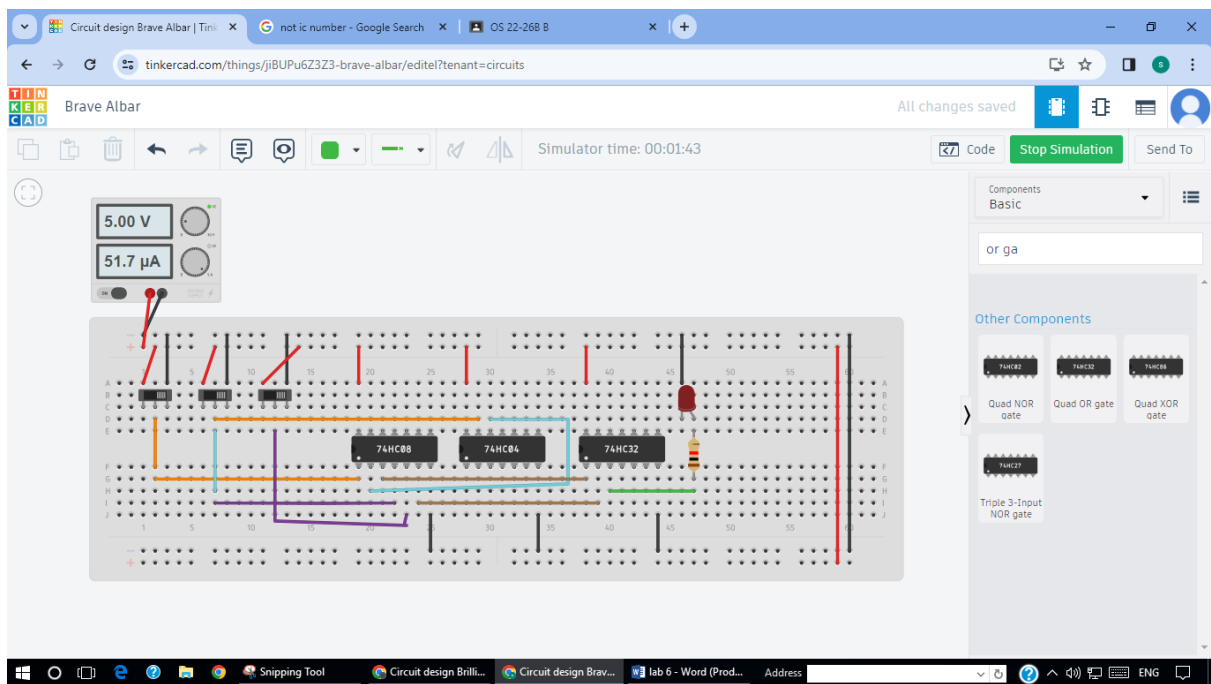


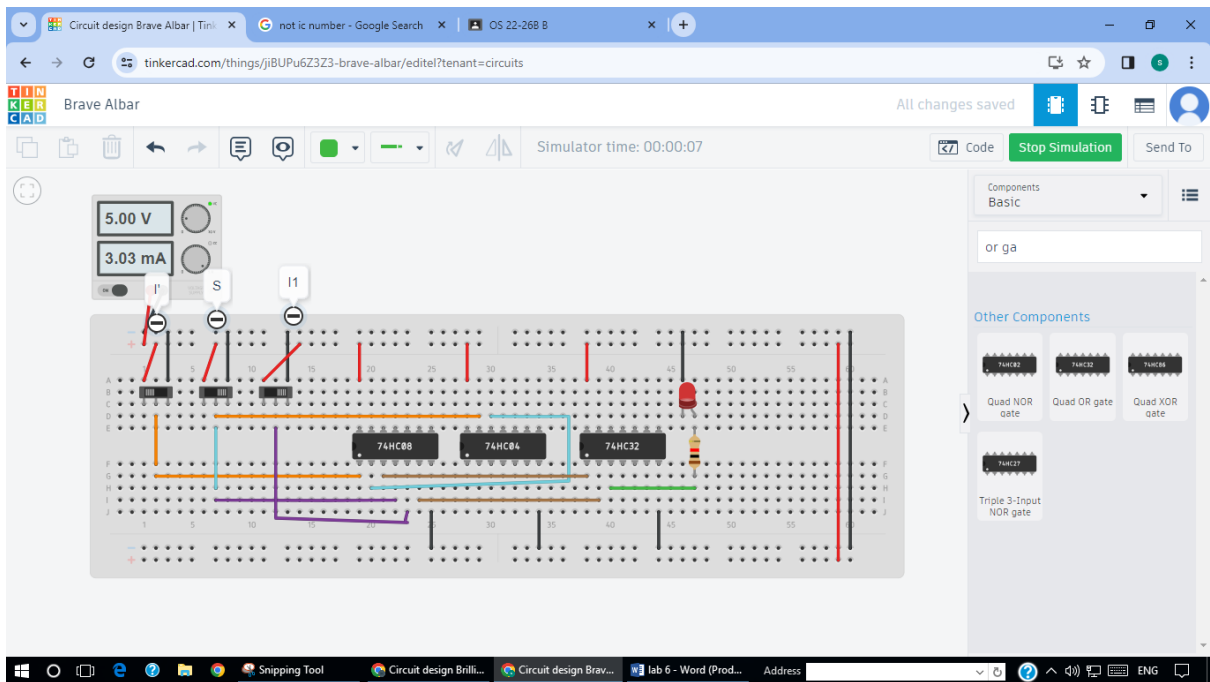
LAB 6

$$Y = I_1 S + I_0 S'$$

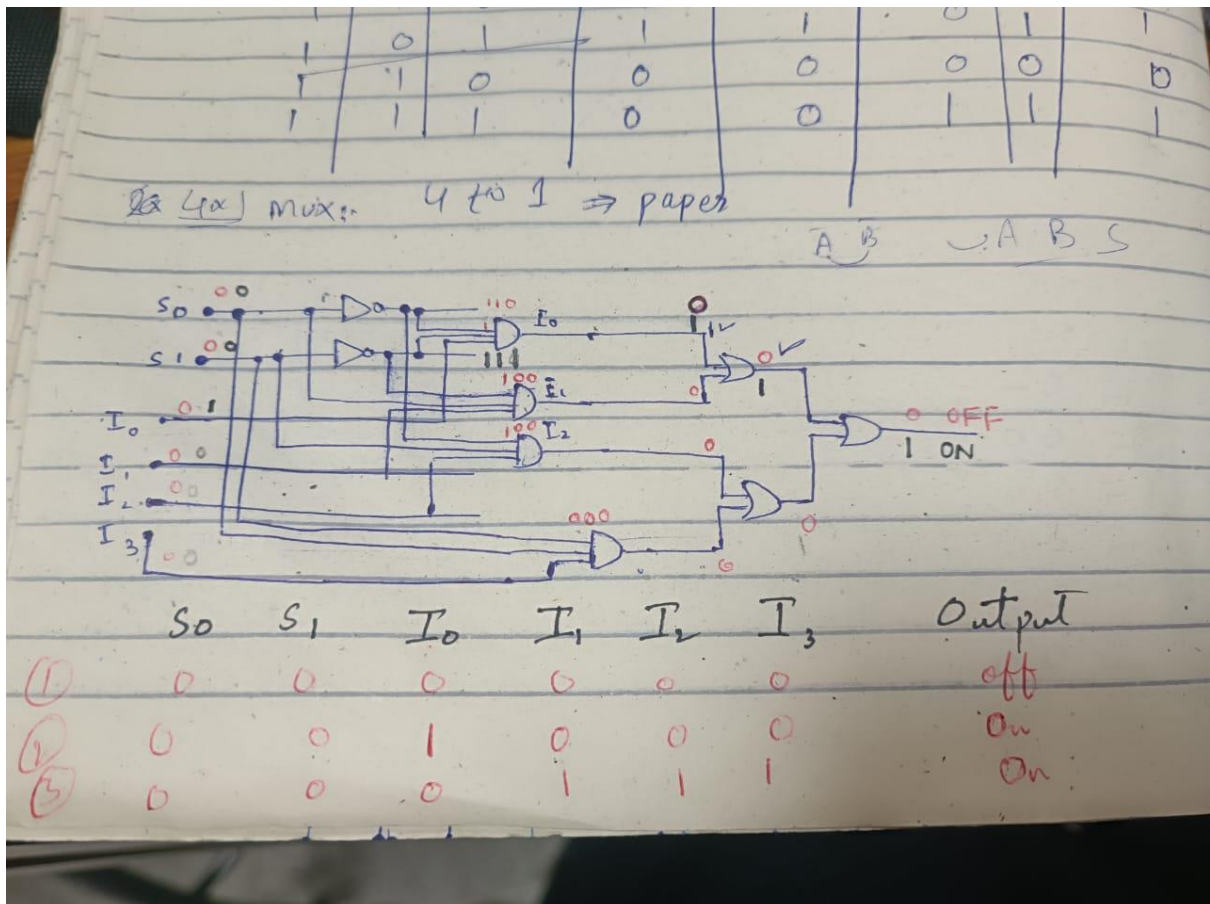
$$Y = A\bar{B} \oplus BC$$

$I_0$	$S$	$I_1$		$A\bar{B}$	$BC$	$A\bar{B} + BC$
A	B	C				
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	0	1	1
0	1	1	0	0	1	1
1	0	0	1	1	0	1
1	0	1	0	0	0	0
1	1	0	0	0	0	0
1	1	1	0	0	1	1





Multiplexer 4 to 2:



































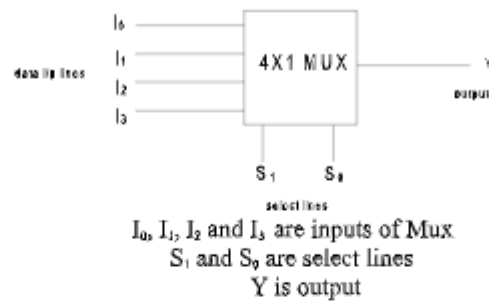








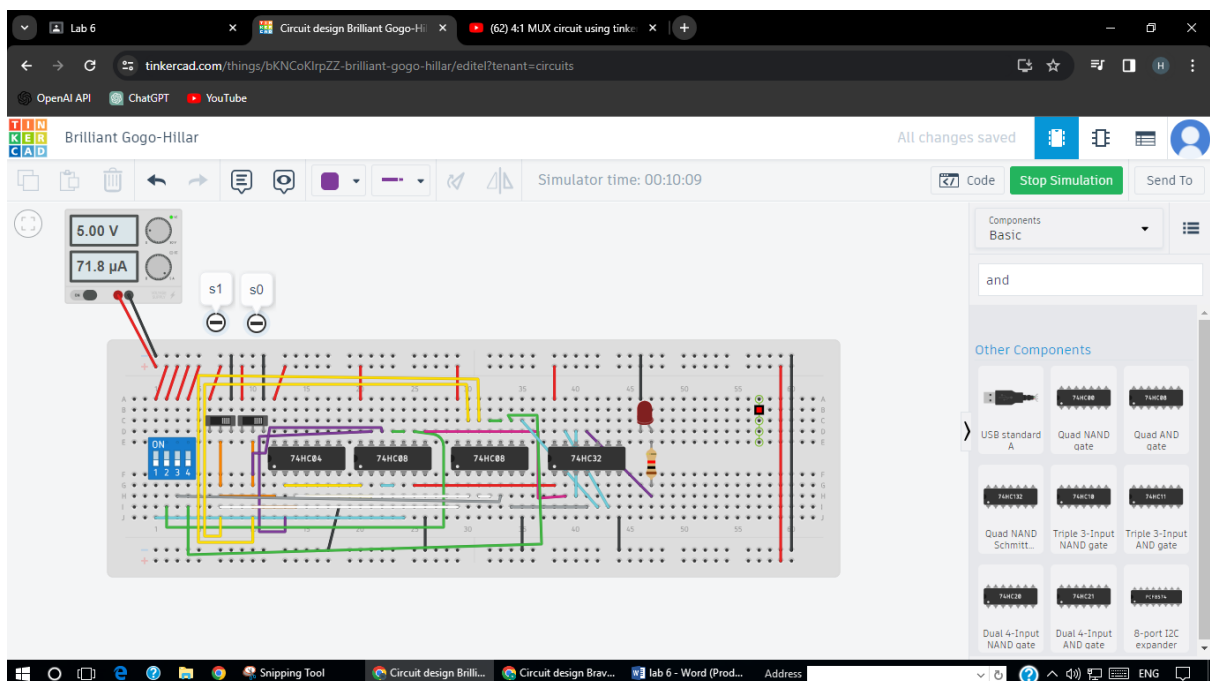
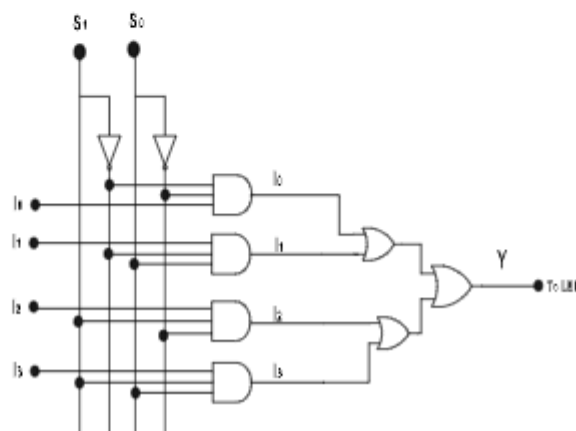
## Block diagram of 4x1 MUX

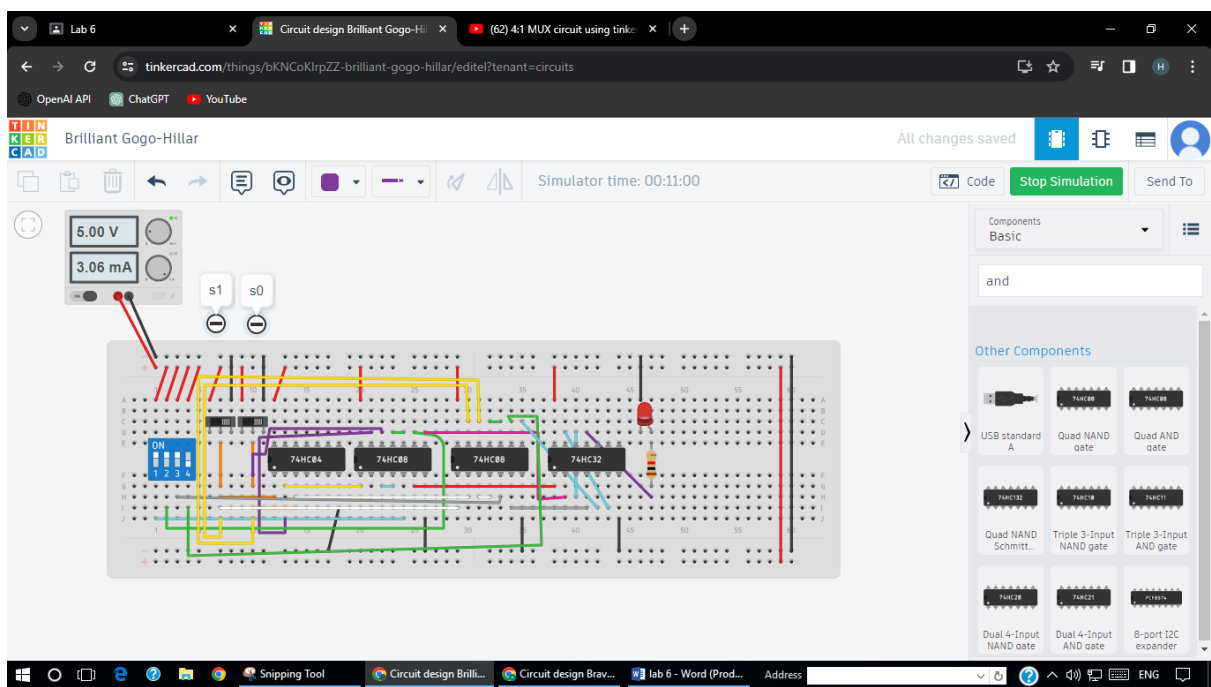
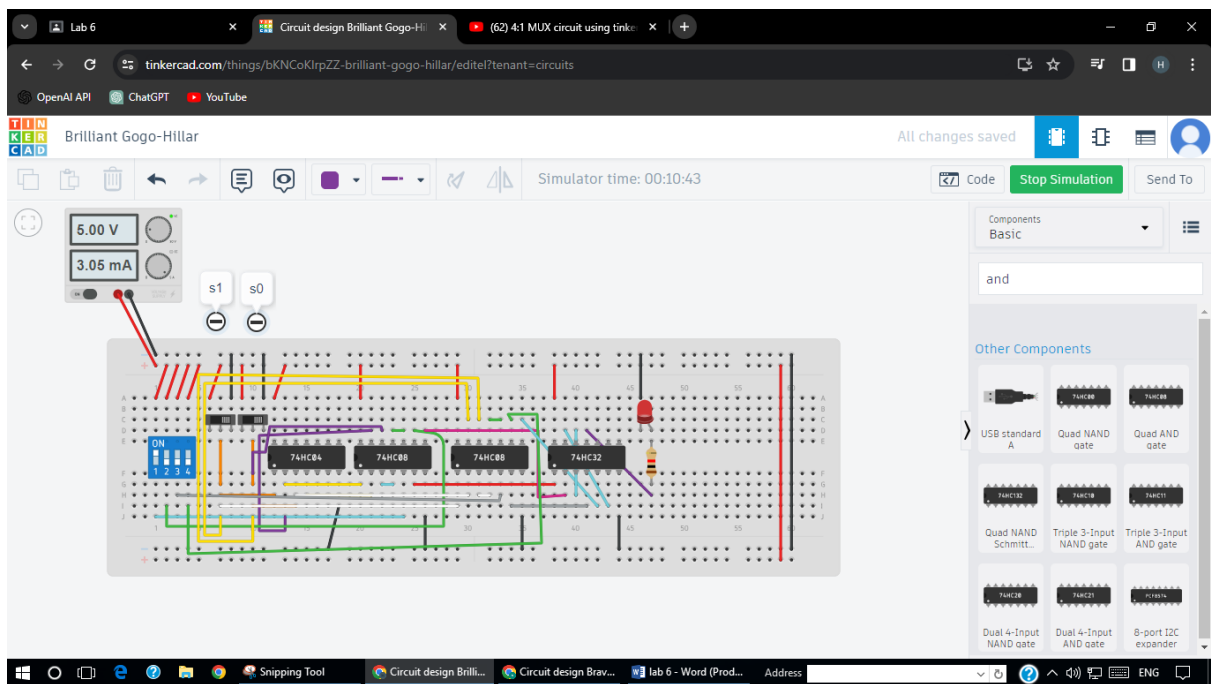


The Boolean function for 4x1 Mux is

$$Y = I_0 S_1' S_0' + S_1' S_0 I_1 + S_1 S_0' I_2 + S_1 S_0 I_3$$

Logic Diagram of 4x1 Mux is

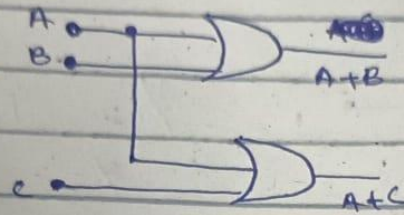




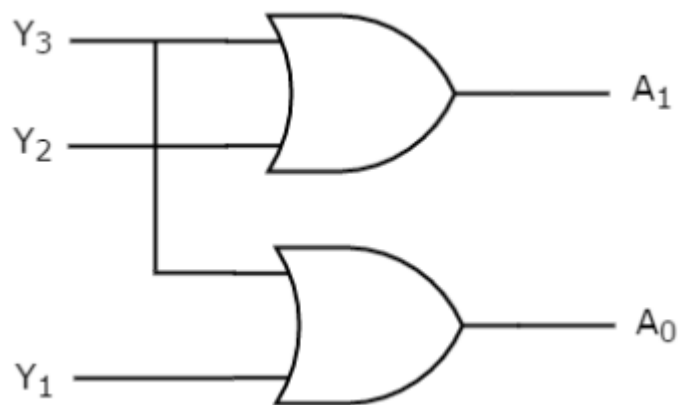
Encoder:

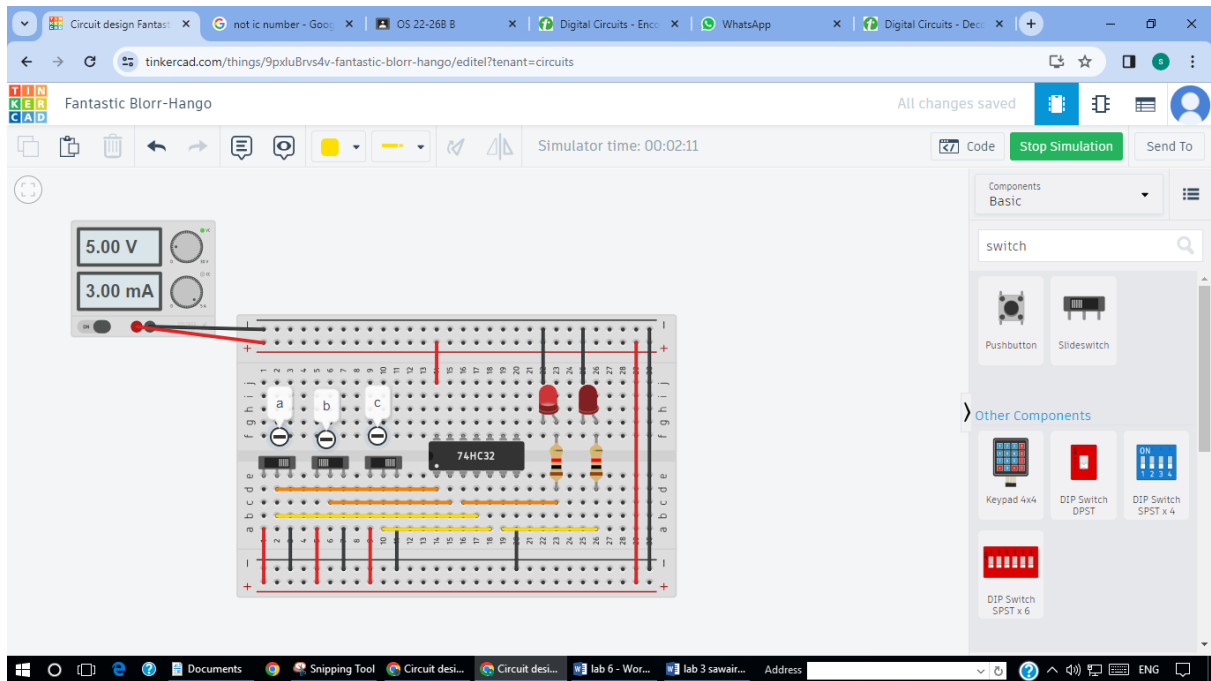


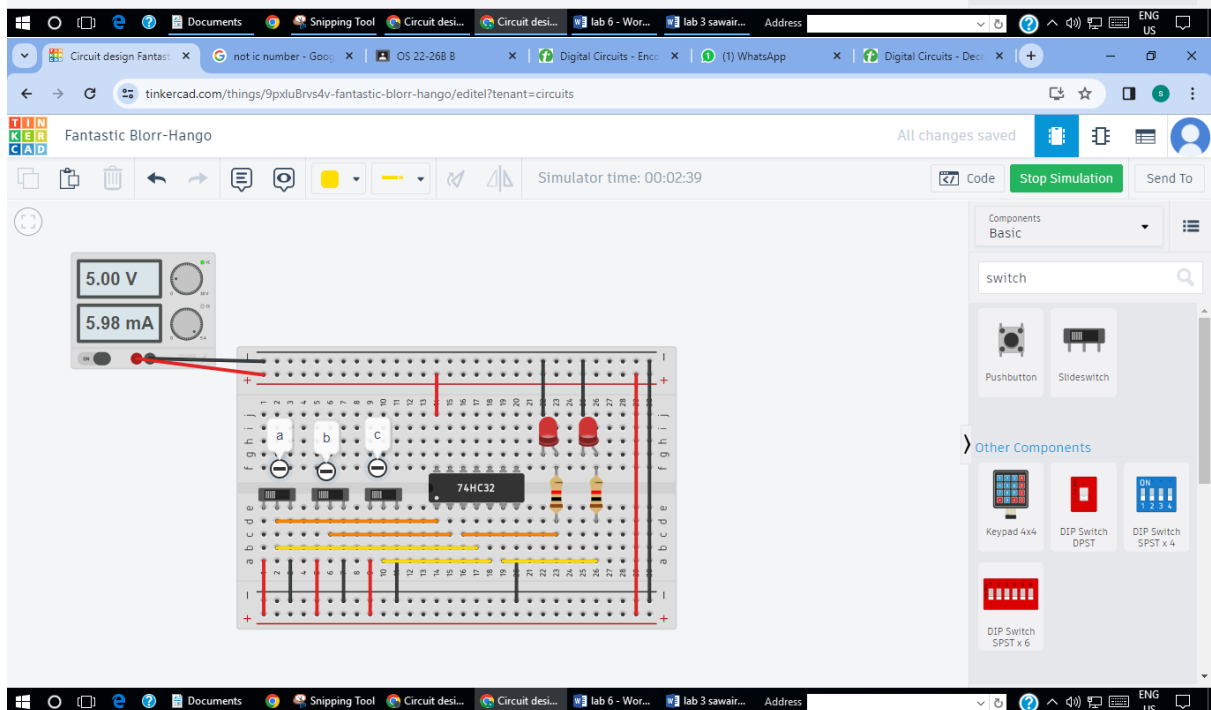
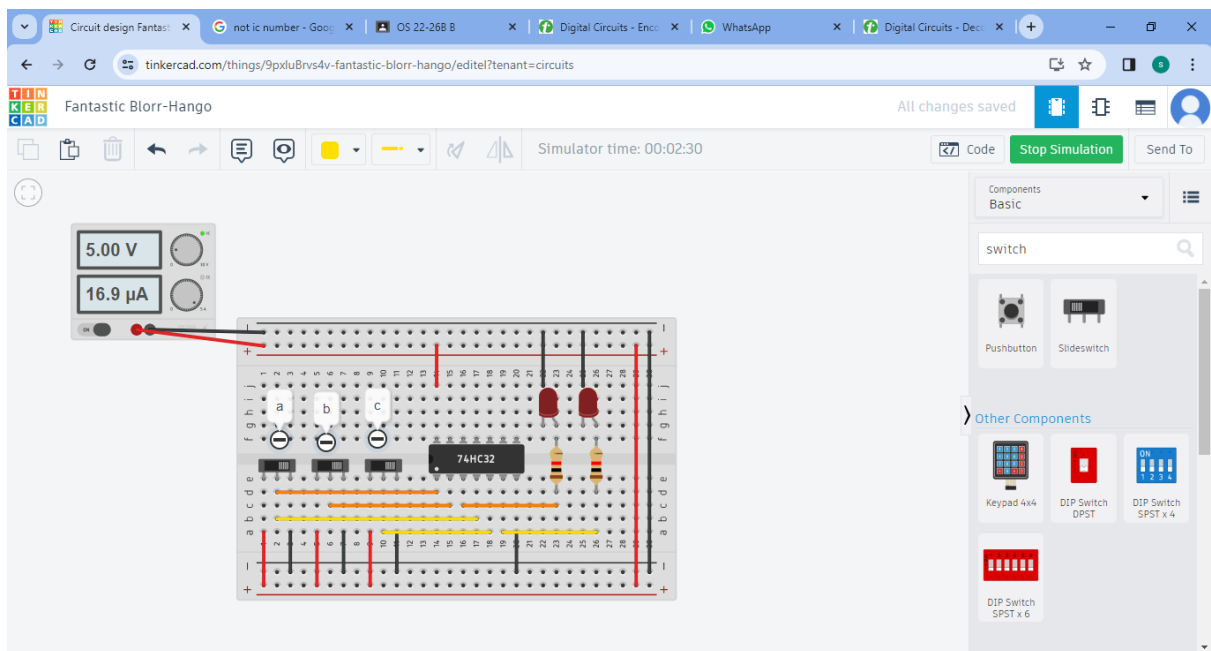
## Encoder:-



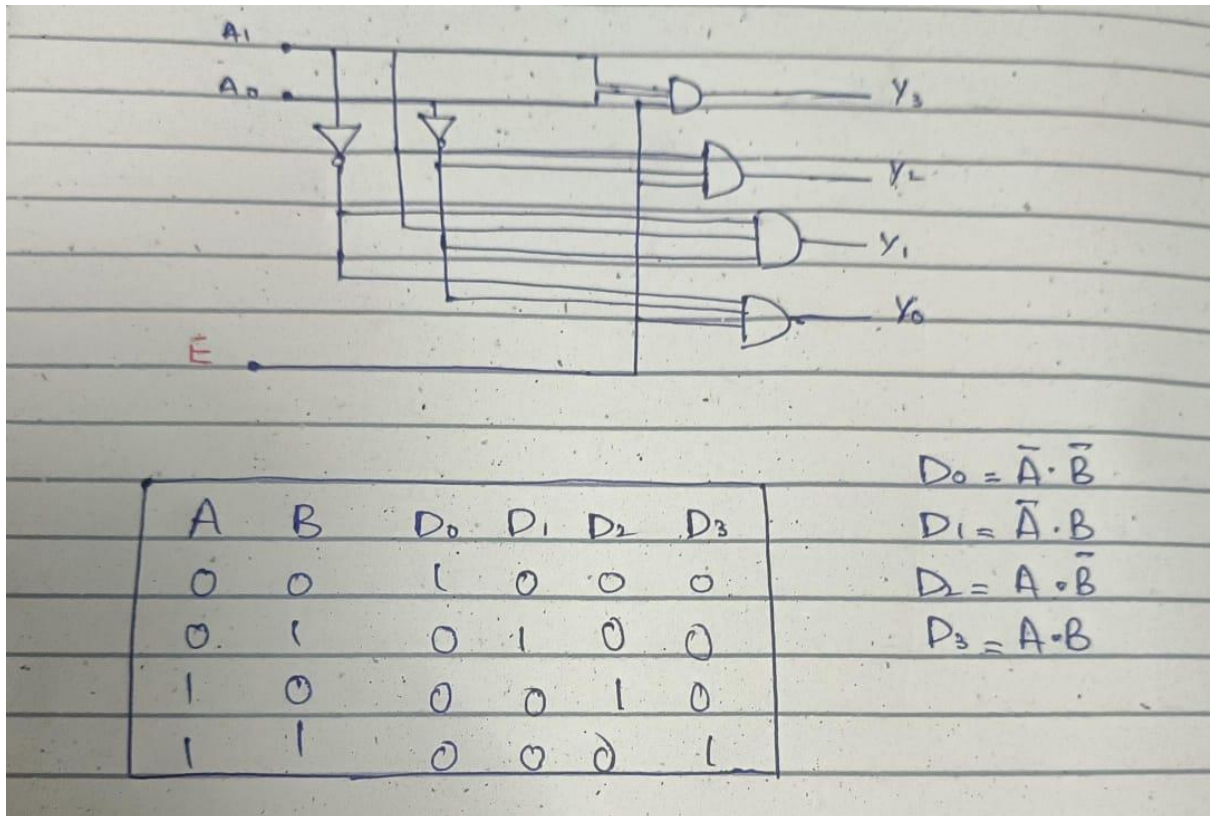
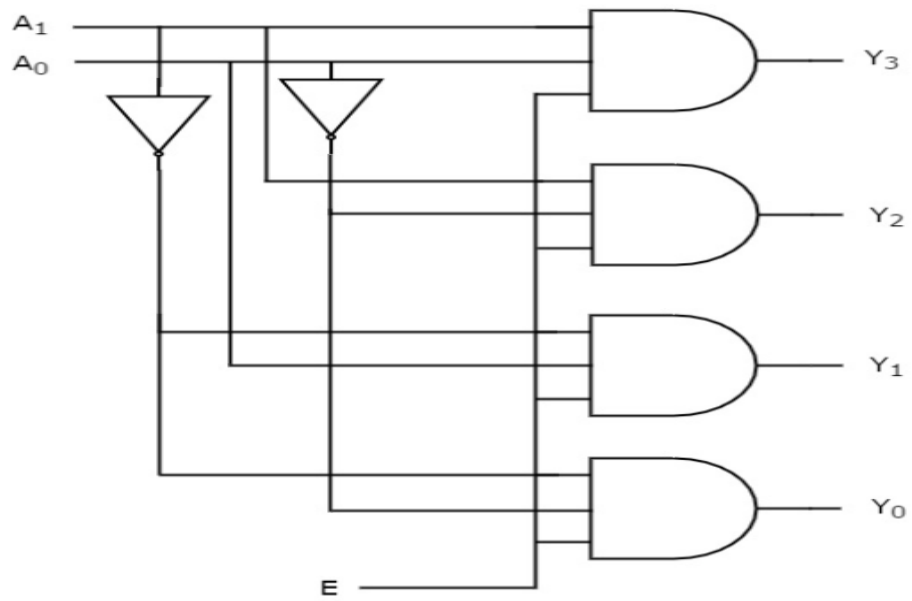
A	B	C	$A+B$	$A+C$
0	0	0	0	0
0	0	1	0	1
0	1	0	1	0
0	1	1	1	1
1	0	0	1	1
1	0	1	1	1
1	1	0	1	1
1	1	1	1	1

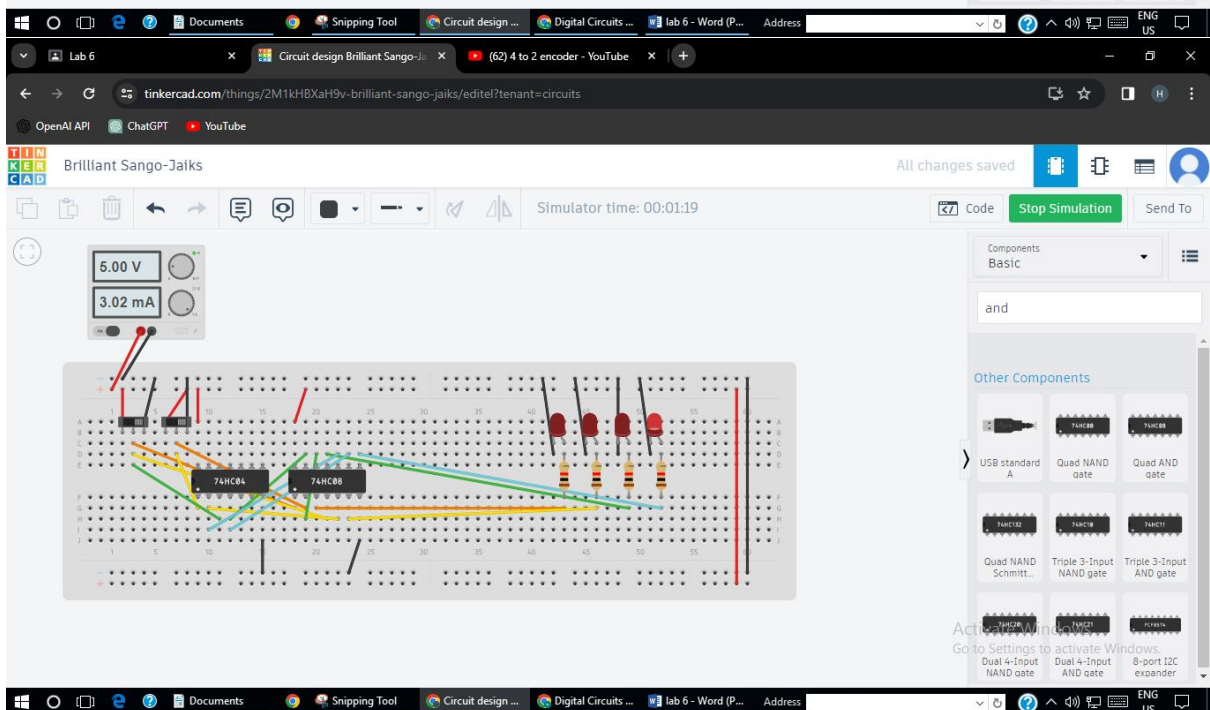
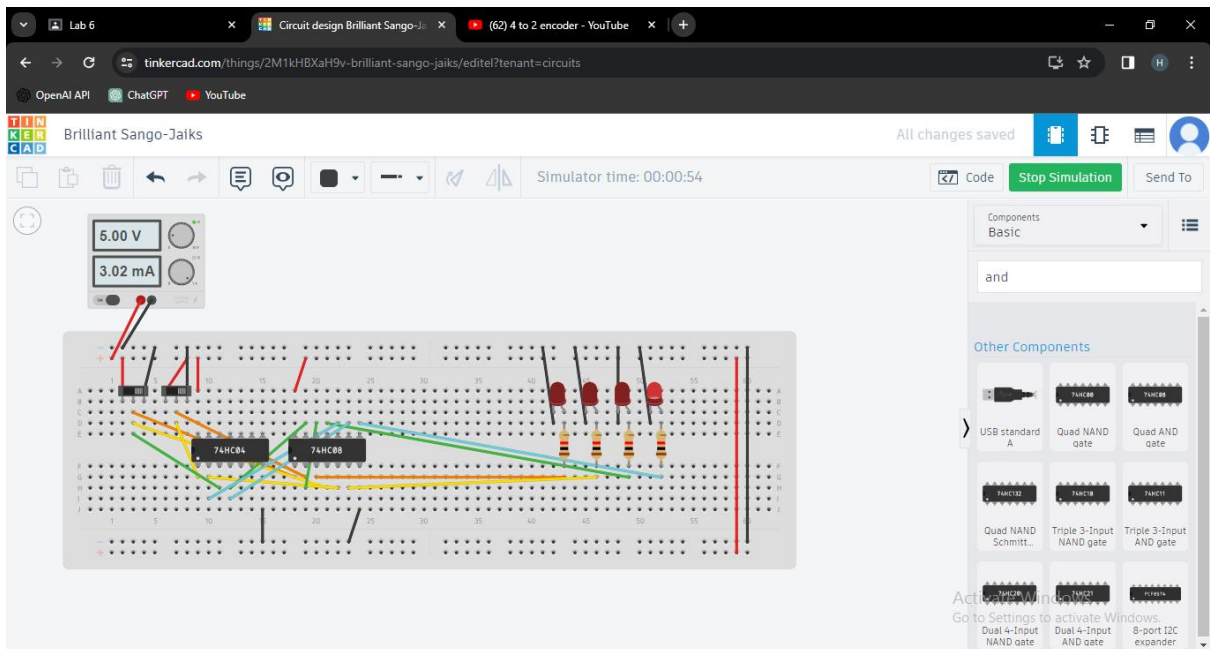






Decoder:





Lab 6   Circuit design Brilliant Sango-Jaiks   (62) 4 to 2 encoder - YouTube

tinkercad.com/things/2M1kH8XaH9v-brilliant-sango-jaiks/edit?tenant=circuits

OpenAI API   ChatGPT   YouTube

Brilliant Sango-Jaiks   All changes saved

Simulator time: 00:00:35

Code   Stop Simulation   Send To

Components Basic

and

Other Components

USB standard A   Quad NAND gate   Quad AND gate

74HC132   74HC138   74HC11

Quad NAND Schmitt...   Triple 3-Input NAND gate   Triple 3-Input AND gate

74HC240   74HC21   74HC14

Dual 4-Input NAND gate   Dual 4-Input AND gate   8-port I2C expander

Active Windows

Go to Settings to activate Windows

Documents   Snipping Tool   Circuit design ...   Digital Circuits ...   lab 6 - Word (P...   Address

ENG US