HAMZA EJAZ

S # B19102041

BSCS-II (Morning)

Section-A

Digital Computers Design Fundamentals

Lab File

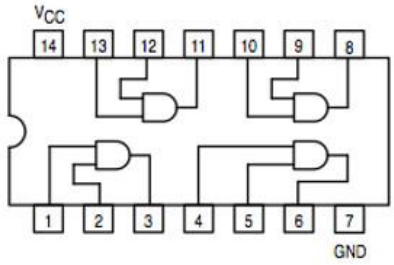
Object:-

To study operations of Basic Gates; i.e AND, OR, NOT.

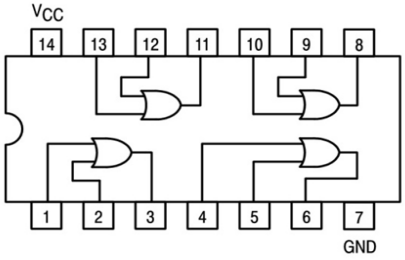
Apparatus:-

ICs (74LS08, 74LS32, 74LS04), copper wires, breadboard, DC power supply, ground and LED bulb.

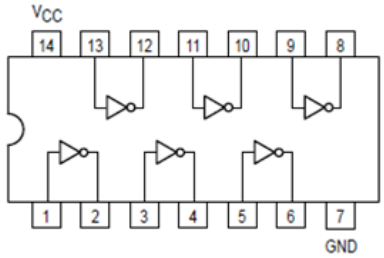
Pin Diagram:-



74LS08

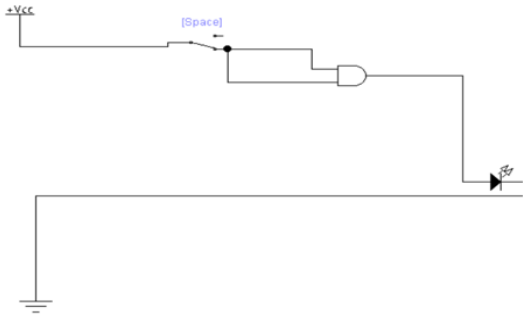


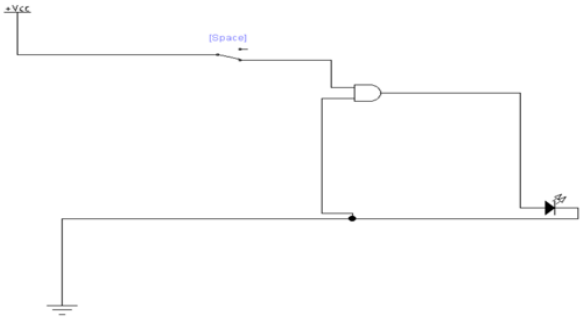
74LS32



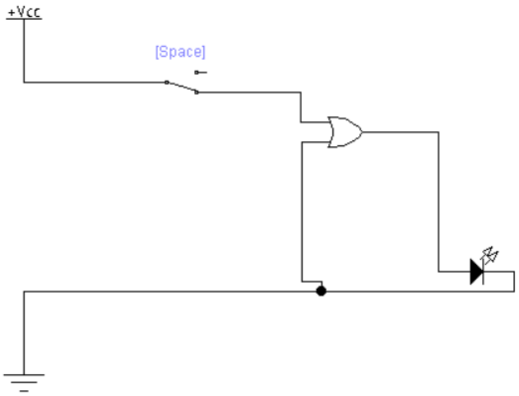
74LS04

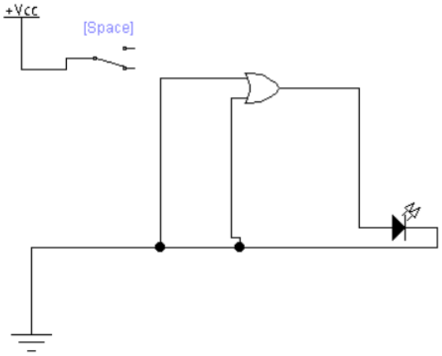
Circuit Diagrams:-



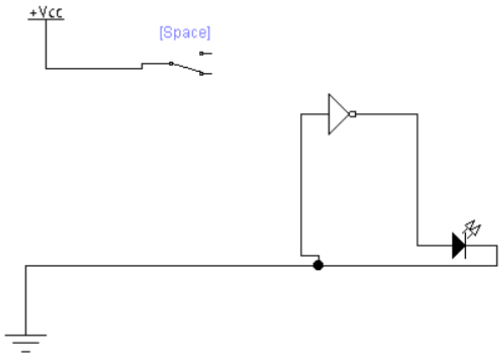


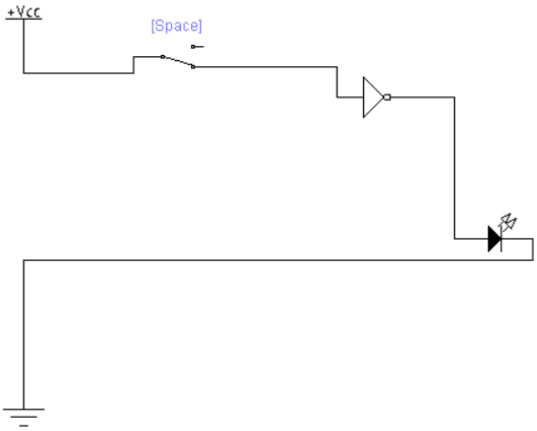
AND Gate





OR Gate





NOT Gate

Truth Table:-

NOT

x	x'
0	1
1	0

AND

x	y	xy
0	0	0
0	1	0
1	0	0
1	1	1

OR

x	y	x+y
0	0	0
0	1	1
1	0	1
1	1	1

Conclusion:-

- When n both inputs are 1/+ Vcc then **AND gate** is producing +ve to the LED bulb and LED is on.
- When at least one input of OR gate is 1/+ Vcc then **OR gate** is producing +ve to the LED bulb and LED is on.
- When the only input of NOT gate is 0/ connected to earth then **NOT gate** is producing +ve to the LED bulb and LED is on.