EXPERIMENT NO.4

Title of experiment: To study and design MUX and DEMUX.

Equipments required: Proteus 8

Theory:

1) Multiplexer means many into one. A multiplexer is a circuit used to select and route any one of the several input signals to a single output. A simple example of an non-electronic circuit of a multiplexer is a single pole multi-position switch.

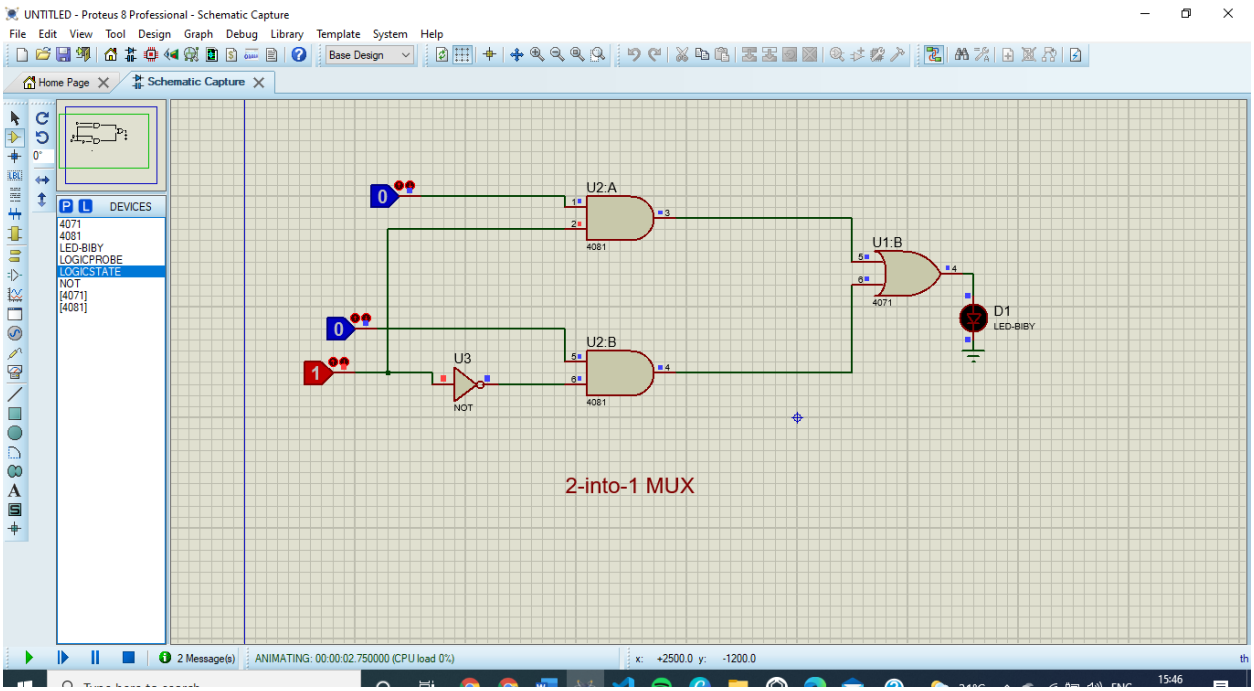
2) Demultiplexer means one to many. A demultiplexer is a circuit with one input and many outputs. By applying control signal, we can steer any input to the output. Few types of demultiplexer are 1-to 2, 1-to-4, 1-to-8 and 1-to 16 demultiplexer.

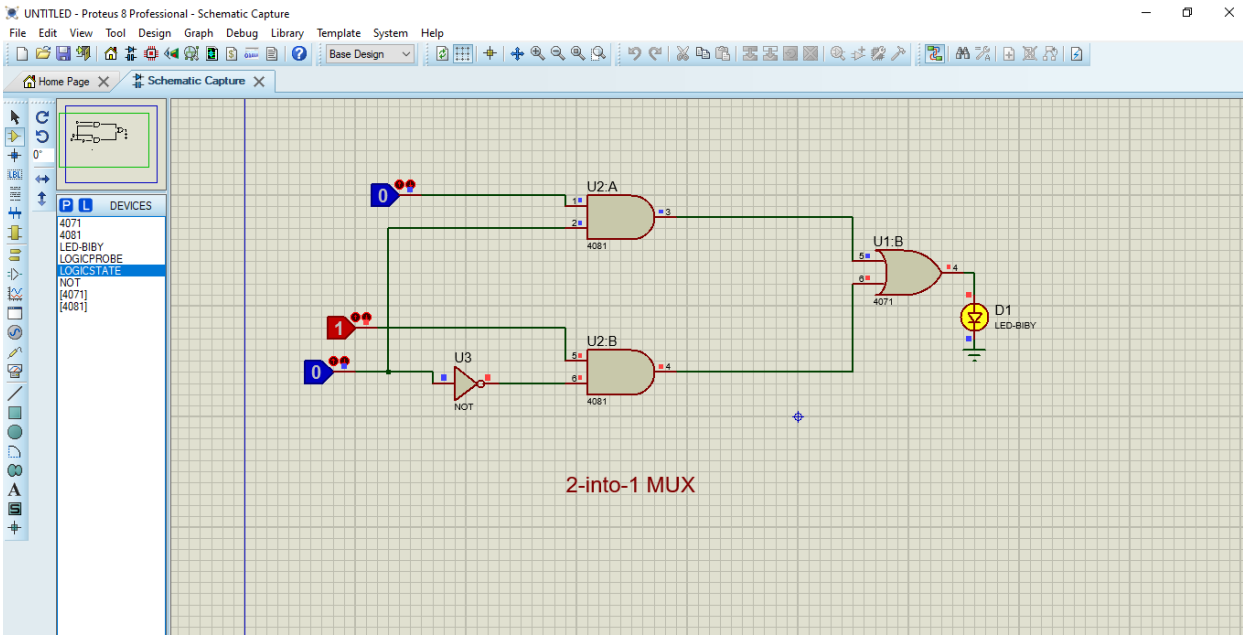
Implementation:

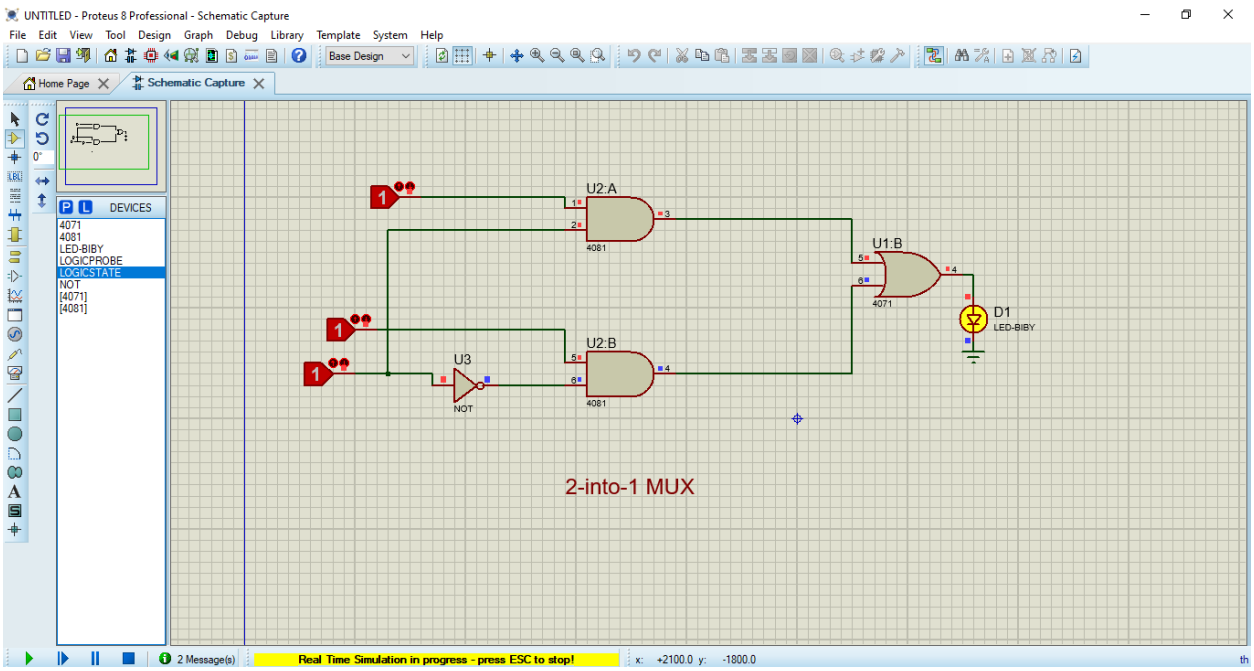
1)The AND gate(4081),OR gate(4071),NOR(74S02),XOR(4030), NOT gate,NAND(4011) are library devices used show the working of the data in Proteus 8 software.
2)Logicstate,logicprobe devices are used to fetch output of logic gates.

Snapshots:

MUX






UNTITLED - Proteus 8 Professional - Schematic Capture
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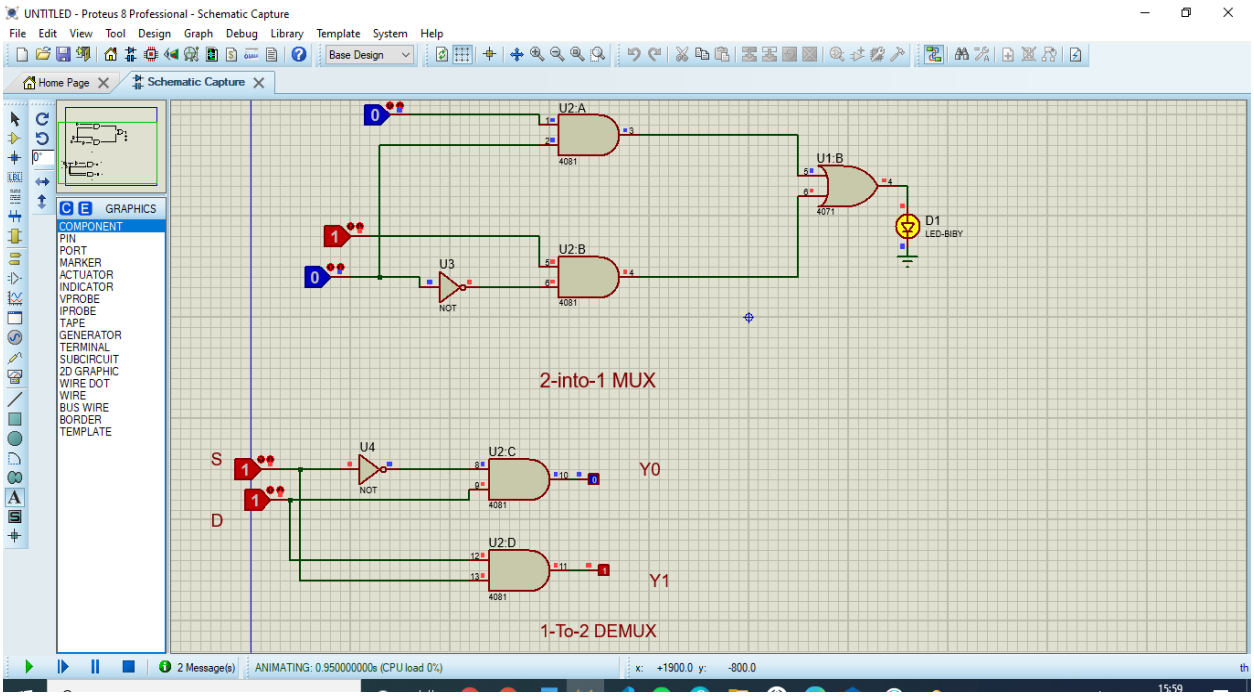
Schematic Capture
DEVICES
4071
4081
LED-BIBY
LOGICPROBE
LOGICSTATE
NOT
[4071]
[4081]
U2:A
U2:B
U1:B
U3
NOT
D1
LED-BIBY
2-into-1 MUX
2 Message(s)
Real Time Simulation in progress - press ESC to stop!

DEMUX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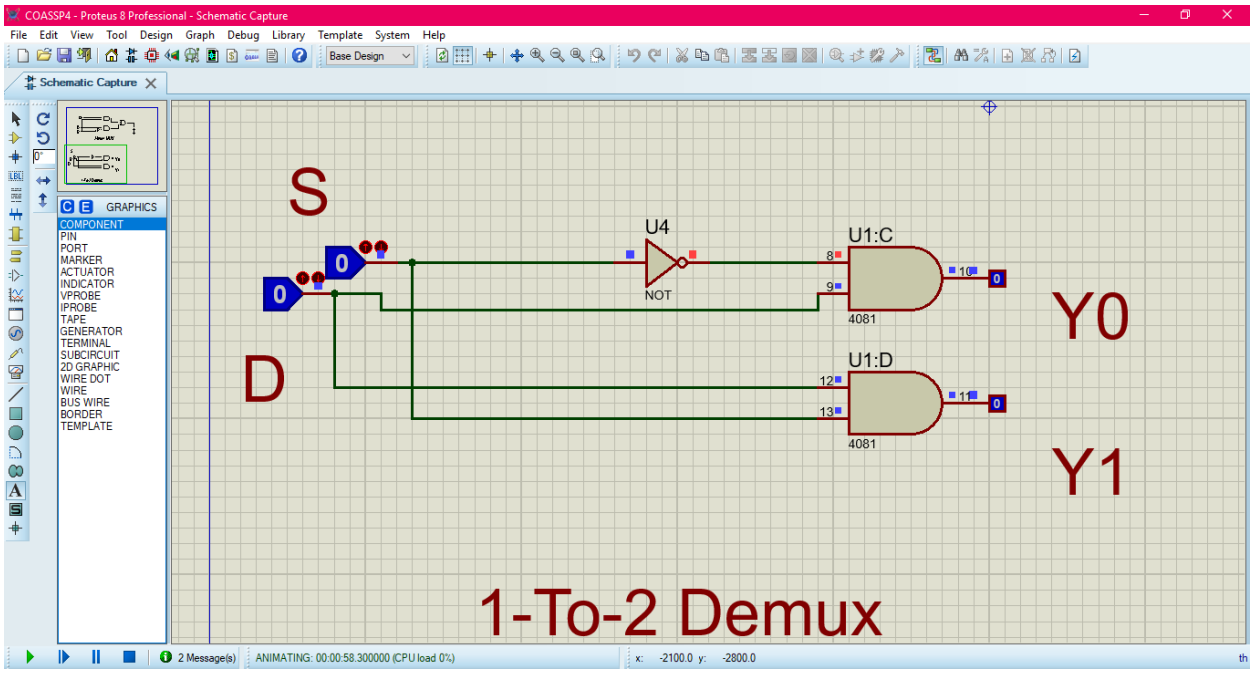
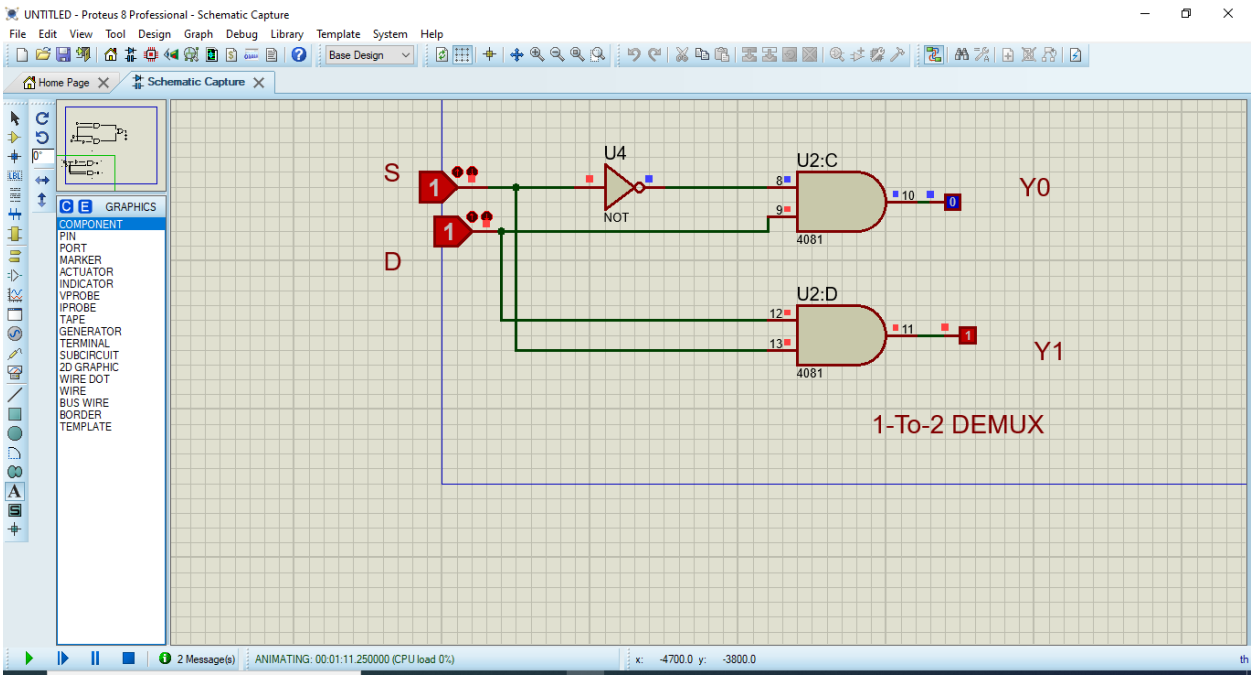
Home Page
Schematic Capture
GRAPHICS
COMPONENT
PIN
PORT
MARKER
ACTUATOR
INDICATOR
VPROBE
IPROBE
TAPE
GENERATOR
TERMINAL
SUBCIRCUIT
2D GRAPHIC
WIRE DOT
WIRE
BUS WIRE
BORDER
TEMPLATE
U2:A
U2:B
U1:B
U3
NOT
D1
LED-BIBY
2-into-1 MUX
S
D
U4
U2:C
U2:D
Y0
Y1
1-To-2 DEMUX
2 Message(s)
ANIMATING: 0.950000000s (CPU load 0%)





Conclusion

These are MUX and DEMUX demos in Proteus