

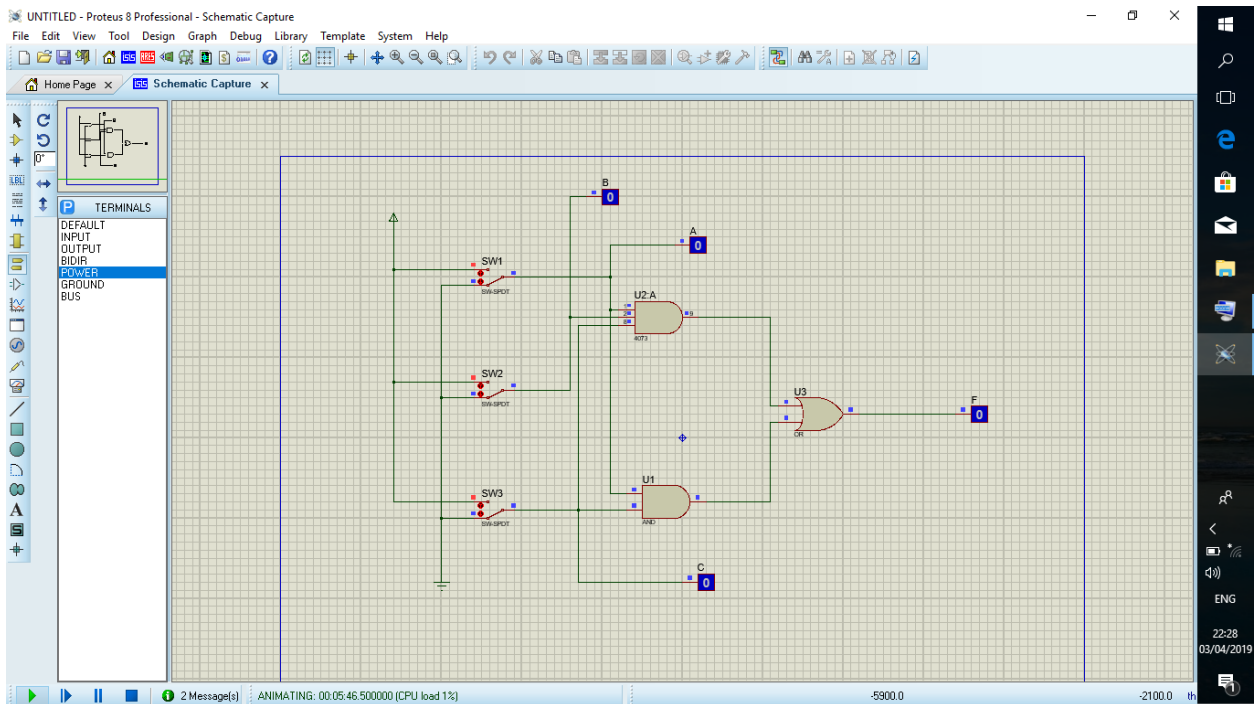
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Experiment 1

A. Create a logic gate combination as shown in figure below !



B. Boolean function : $F = ABC + AC$

C. Truth table :

A	B	C	F
0	0	0	0
1	0	0	0
0	1	0	0
1	1	0	0
0	0	1	0
1	0	1	1
0	1	1	0
1	1	1	1

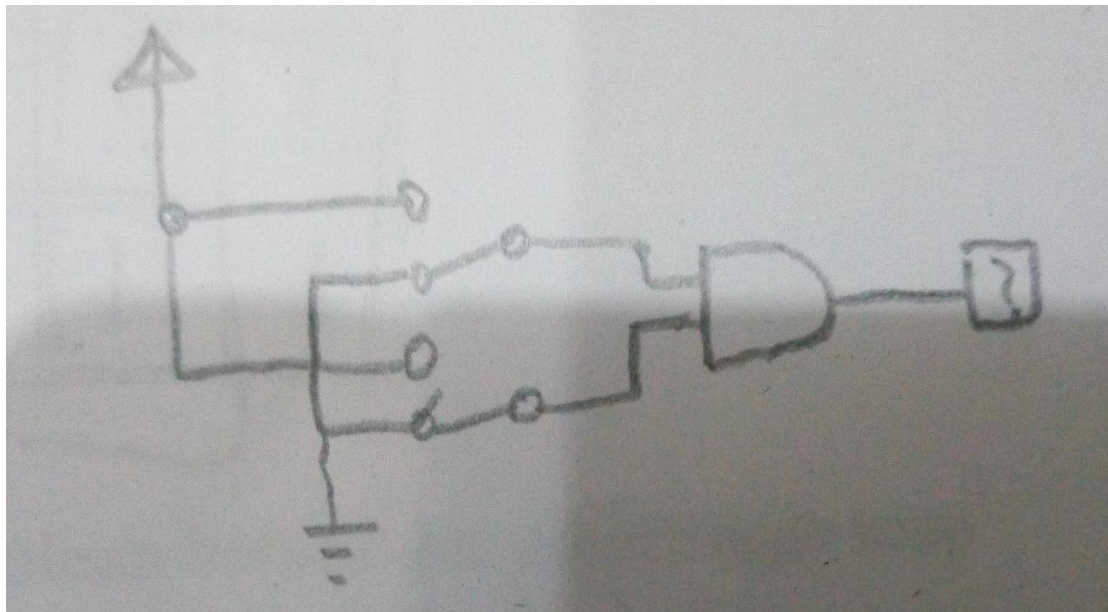
D. Fill in the blank of karnaugh map below ;

		AB			
		00	01	11	10
C	0	0	0	0	0
	1	0	0	1	1

E. Simplify Boolean functions based on karnaugh maps:

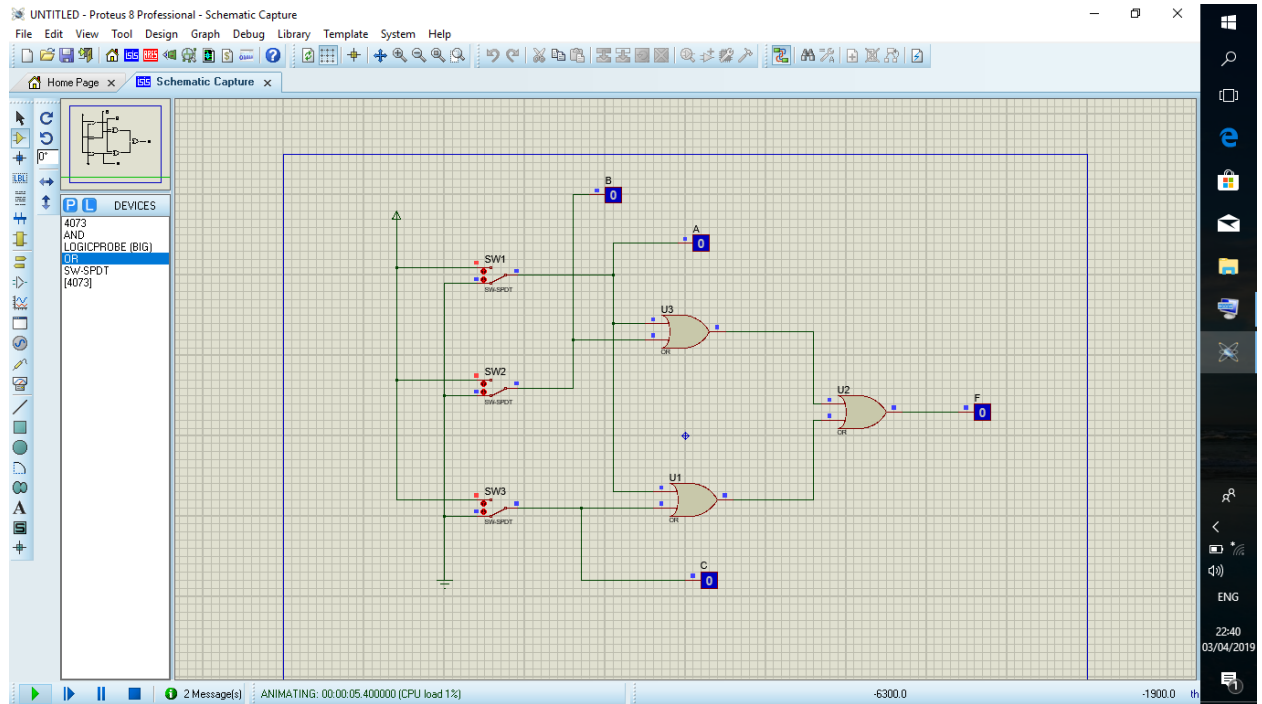
$$F = A.C$$

F. Draw the logic gate in the box below!



Experiment 2

A. Create a logic gate combination as shown in figure below !



B. Boolean function : $F = (A+B).(A+C)$

C. The truth table :

A	B	C	F
0	0	0	0
1	0	0	1
0	1	0	0
1	1	0	1
0	0	1	0
1	0	1	1
0	1	1	1
1	1	1	1

D. Fill in the blank of karnaugh map below ;

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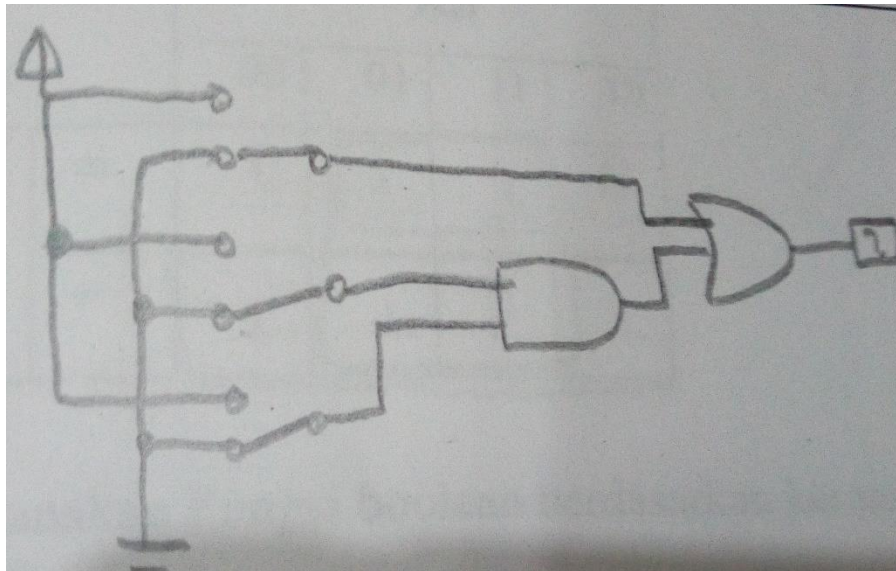
		AB			
		00	01	11	10
C	0	0	0	1	1
	1	0	1	1	1

Give the Boolean functions based on Karnaugh

E. Simplify Boolean functions based on karnaugh maps:

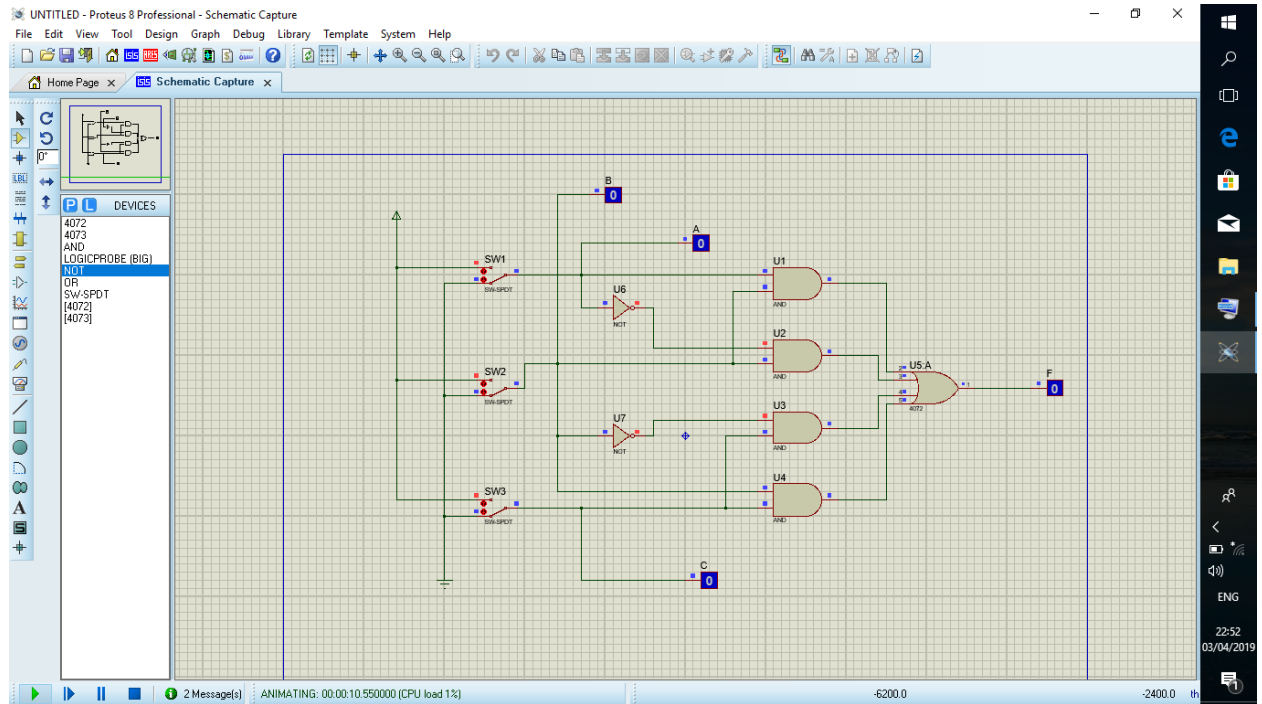
$$F = A + (B.C)$$

G. Draw the logic gate in the box below!



Experiment 3 :

A. Create a logic gate combination as shown in figure below !



B. Boolean function : $F = AB + A'B + A'C + BC$

C. The truth table :

A	B	C	F
0	0	0	0
1	0	0	0
0	1	0	1
1	1	0	1
0	0	1	1
1	0	1	1
0	1	1	1
1	1	1	1

D. Fill in the blank of karnaugh map below ;

		AB			
		00	01	11	10
C	0	0	1	1	0
	1	1	1	1	1

E. Simplify Boolean functions based on karnaugh maps:

$$F = B + C$$

F. Draw the logic gate in the box below!

