PRACTICUM SISDIG

MODUL 4

DIGITAL SYSTEM

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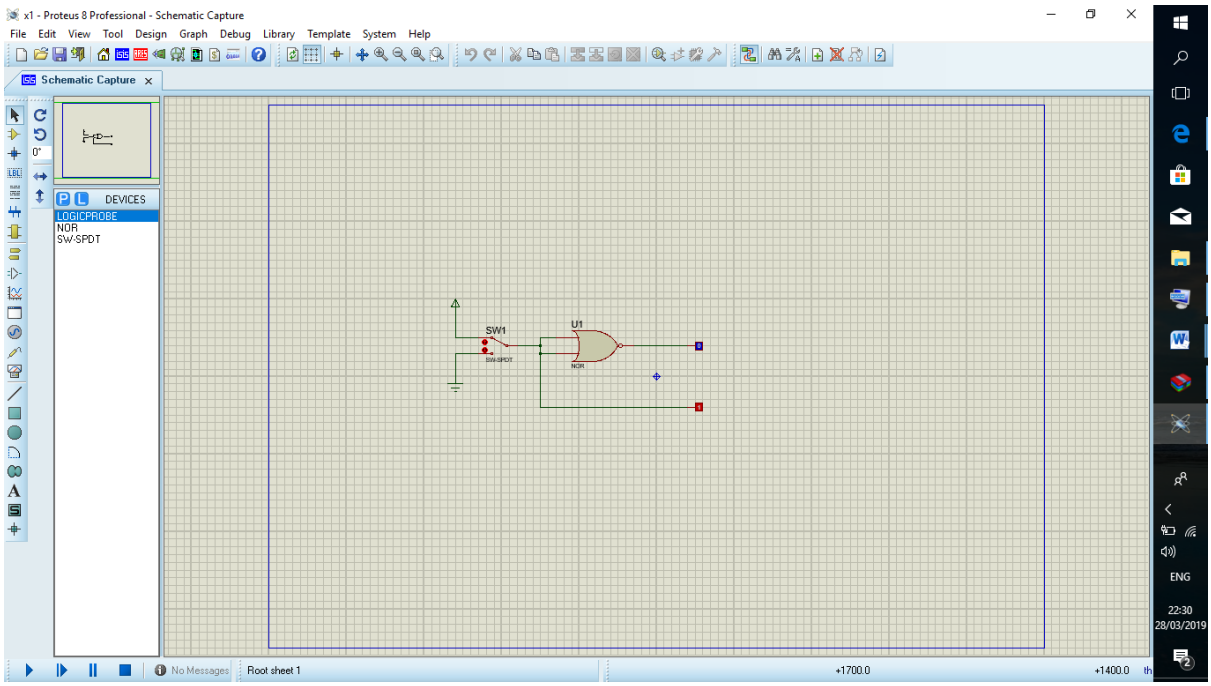
Experiment 1



Picture 1.1 Gate 1 Variation

2.Boolean Function : $\mathbf{L1 = \overline{L2 + L2} = \overline{L2}}$

3.Truth Table :

SW1	SW2	L1
0	0	1
1	1	0

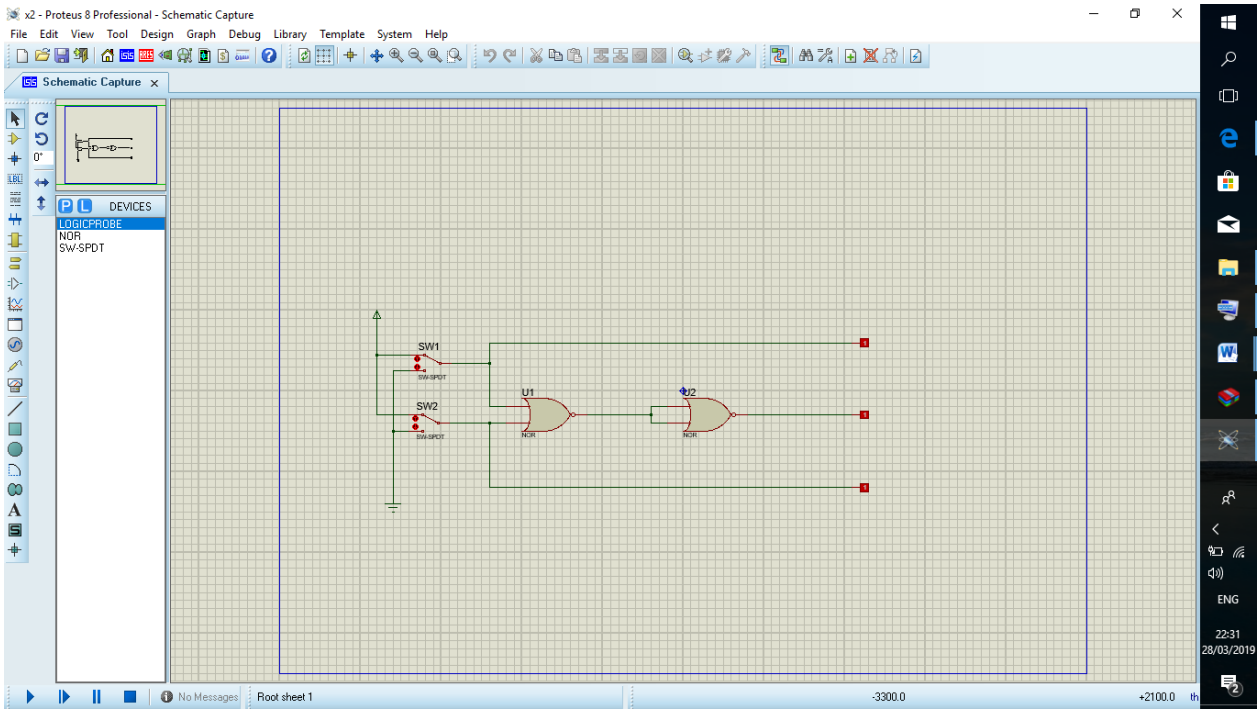
4. Time Diagram

L2	
L1	

5. Conclusion

NOR Gate in the picture above create a logic gate from NOT

Experiment 2.



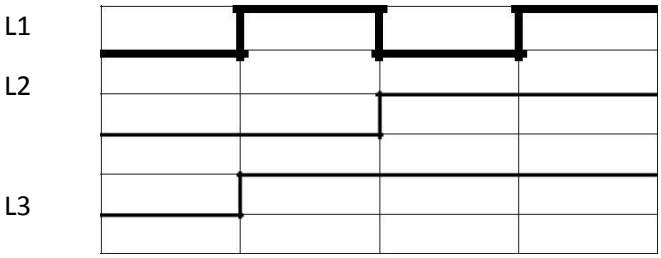
Picture 2.1 Gate 2 Variation

2. Boolean Function : **L3 = $\overline{\overline{L1 + L2}}$ = L1 + L2**

3. Truth Table

SW1	SW2	L1	L2	L3
0	0	0	0	0
1	0	1	0	1
0	1	0	1	1
1	1	1	1	1

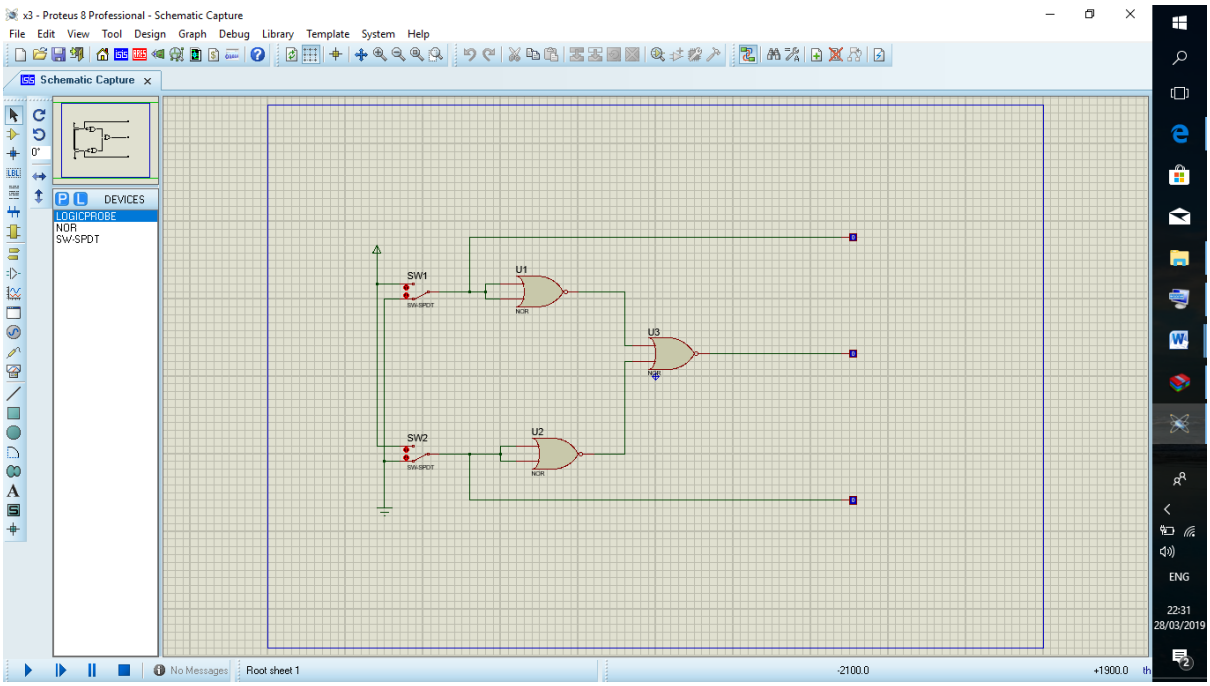
4. Time Diagram



5. Conclusion

NOR Gate in the picture above create a logic from Gate Or

Experiment 3

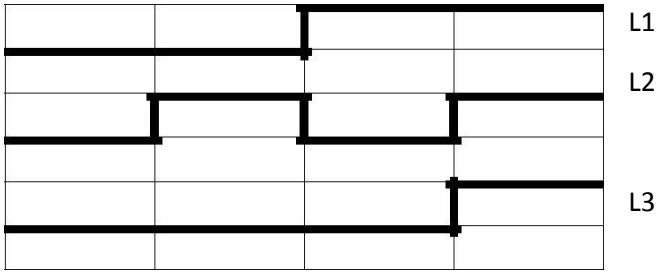


2. Boolean Function : **L3 = L1 + L2 = L1 + L2**

3. Truth Table

SW1	SW2	L1	L2	L3
0	0	0	0	0
0	1	0	1	0
1	0	1	0	0
1	1	1	1	1

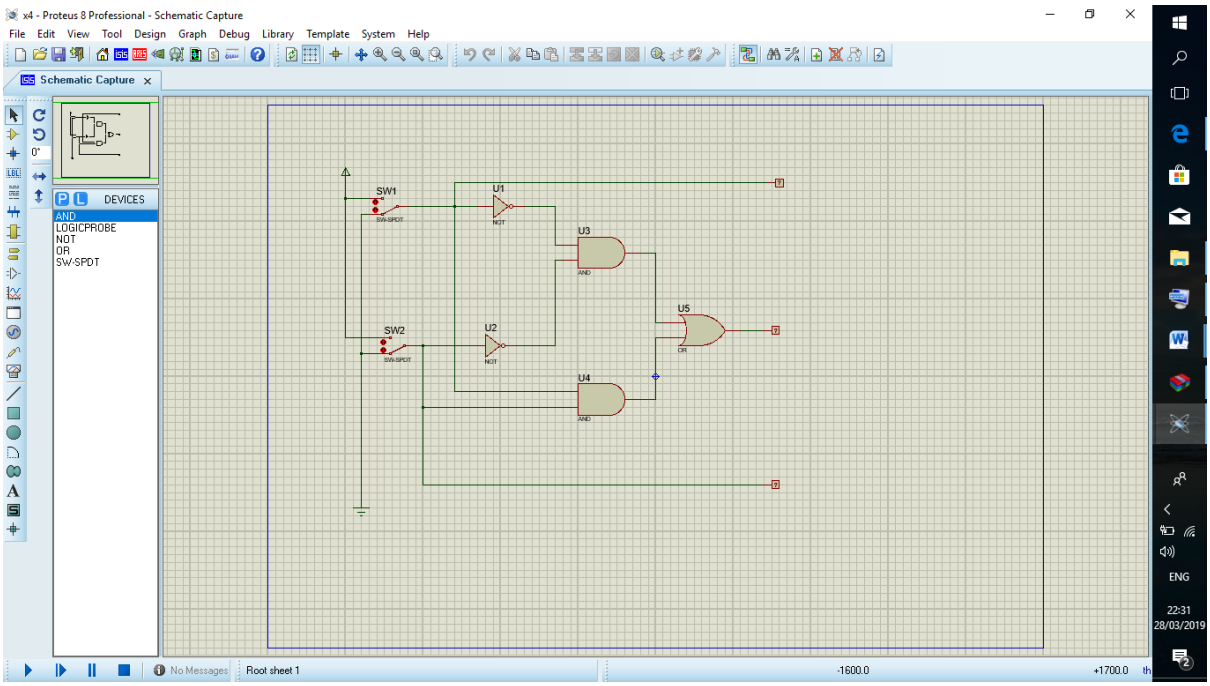
4. Time Diagram



5. Conclusion

Gate NOR in the picture above create logic from Gate AND

Experiment 4

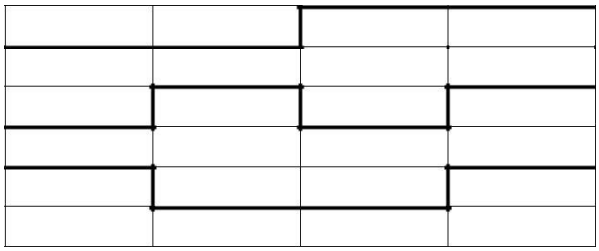


2. Boolean Function : L3 = L1 L2 + L1L2 = L1 L2

3. Truth Table

SW1	SW2	L1	L2	L3
0	0	0	0	1
0	1	0	1	0
1	0	1	0	0
1	1	1	1	1

4. Time Diagram



L1

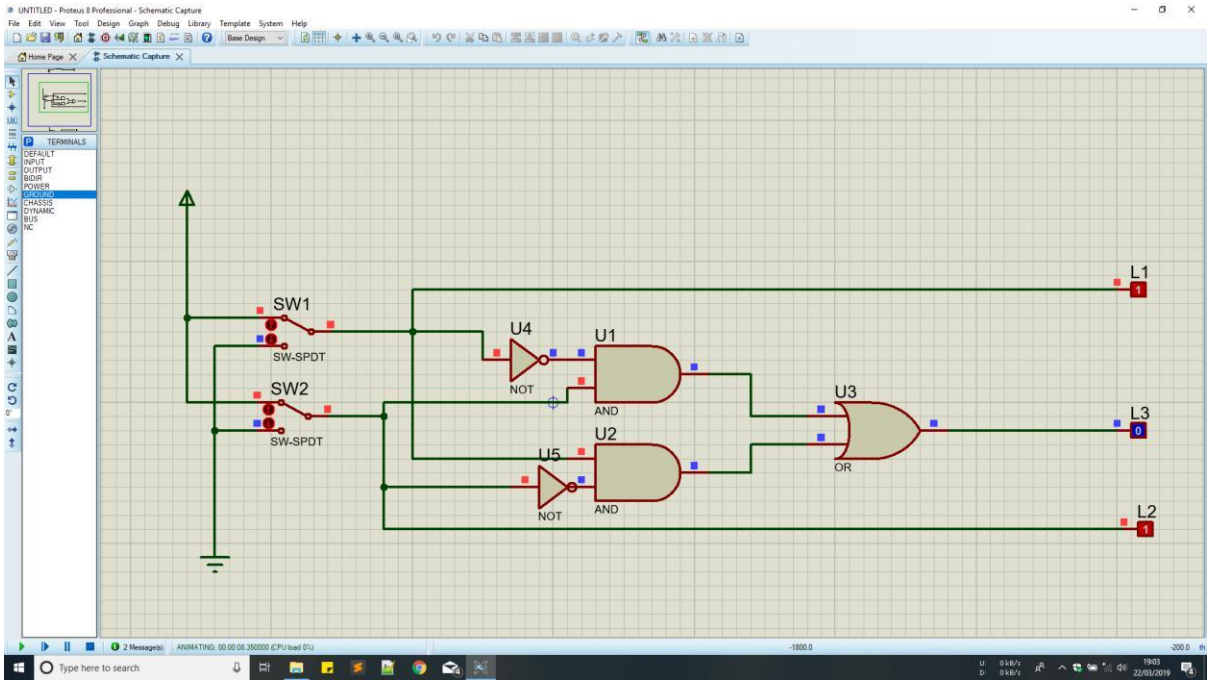
L2

L3

5. Conclusion

Combination Gate in the picture above create logic from Gate XNORR

Experiment 5

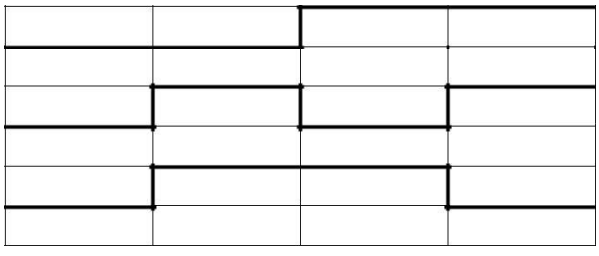


2. Boolean Function : L3 = $\overline{L1}$L2 + L1$\overline{L2}$

3. Truth Table

SW1	SW2	L1	L2	L3
0	0	0	0	0
0	1	0	1	1
1	0	1	0	1
1	1	1	1	0

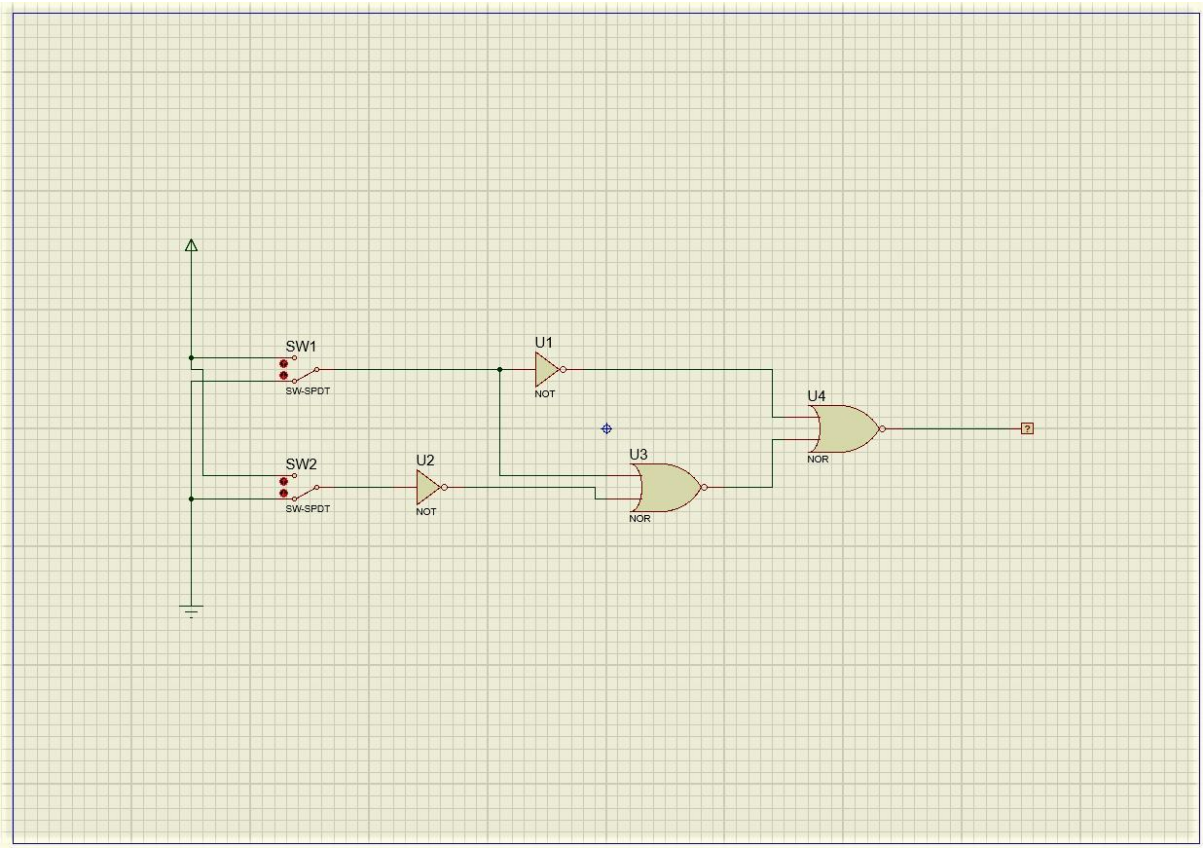
4. Time Diagram



5. Conclusion

Combinatio Gate in the picture above create logic from Gate XOR

Additional Experiment 1.



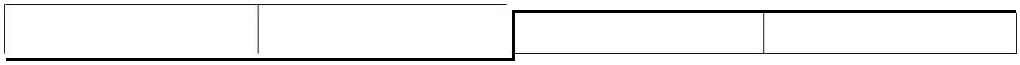
Picture 6.1. Set of gate

1. Truth Table

X	Y	F
0	0	0
0	1	0
1	0	1
1	1	1

2. Time Diagram

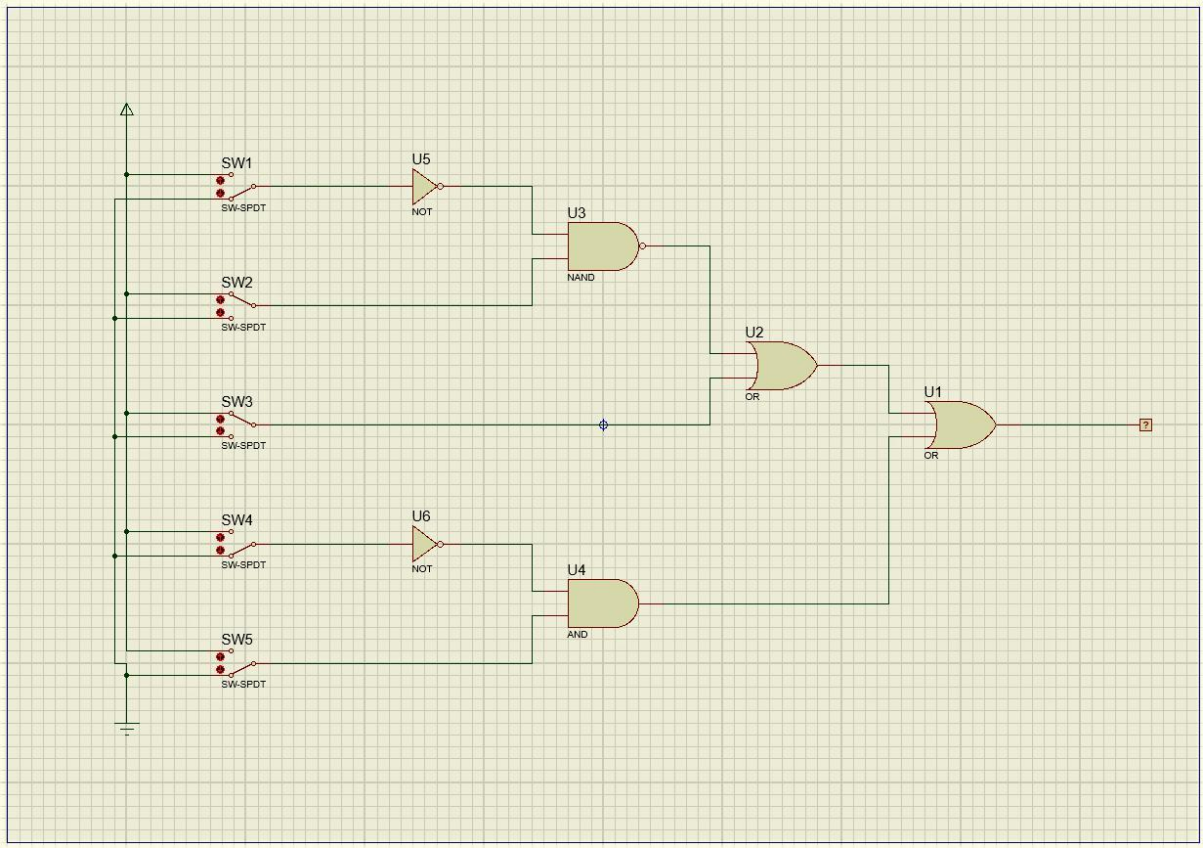
L1



3. Boolean Function

$F = \neg(\neg X + \neg (X + \neg Y)) = X(X + \neg Y)$

Additional Experiment 2.



Picture 7.1. Set of gate for boolean function F = **(**⌐ **(**⌐A.B) + C) + (⌐D.E))