DIGITAL SYSTEMS

PRACTICUM 4

By:

GANNO TRIBUANA KURNIAJI

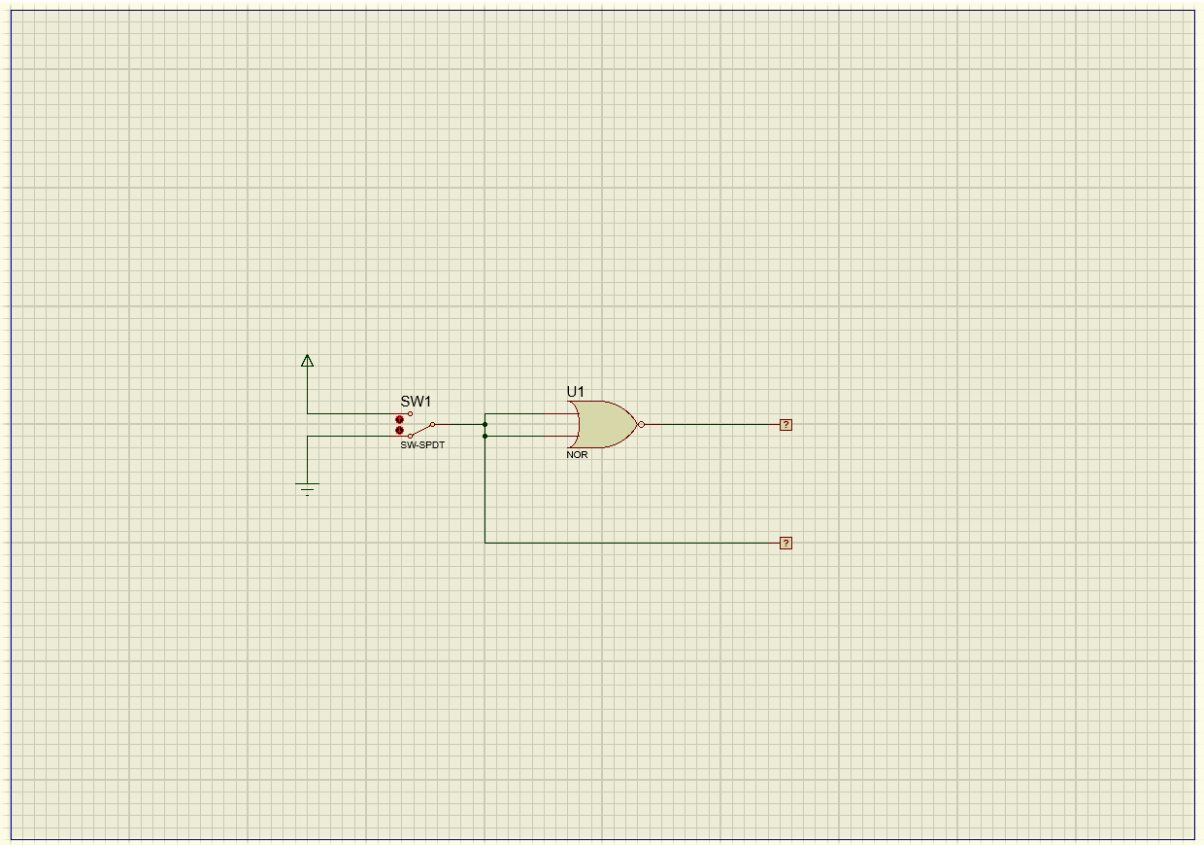
NIM: L200184092

INFORMATION TECHNOLOGY

FACULTY OF COMMUNICATION AND INFORMATICS

UNIVERSITY OF MUHAMMADIYAH SURAKARTA

Experiment 1.



Picture 1.1. Gate 1 variation

1. Truth table

SW1	L2	L1
0	0	1
1	1	0

2. Time diagram

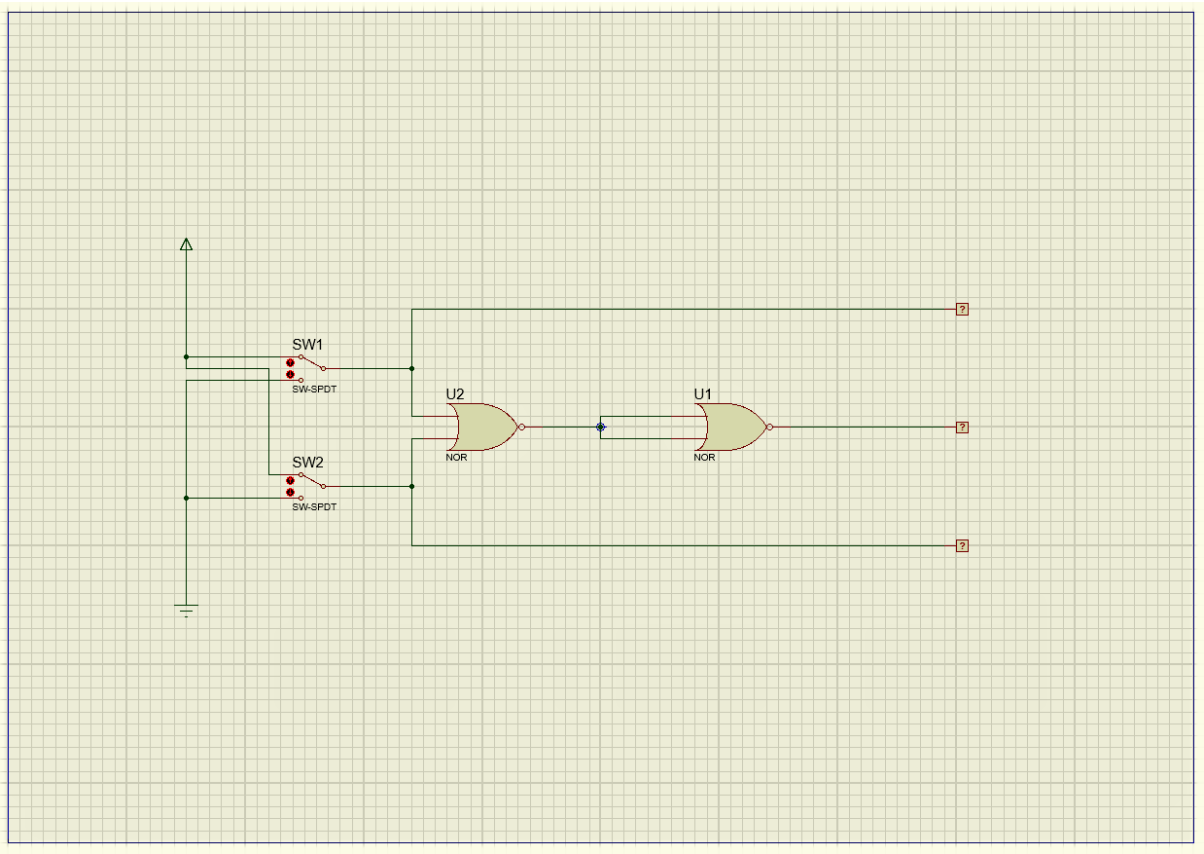
L1

L2

3. Conclusion

The NOR gate in picture 1.1 forms the logic of the NOT gate

Experiment 2.



Picture 2.1. Gate 2 variation

1. 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

2. Time diagram

L1

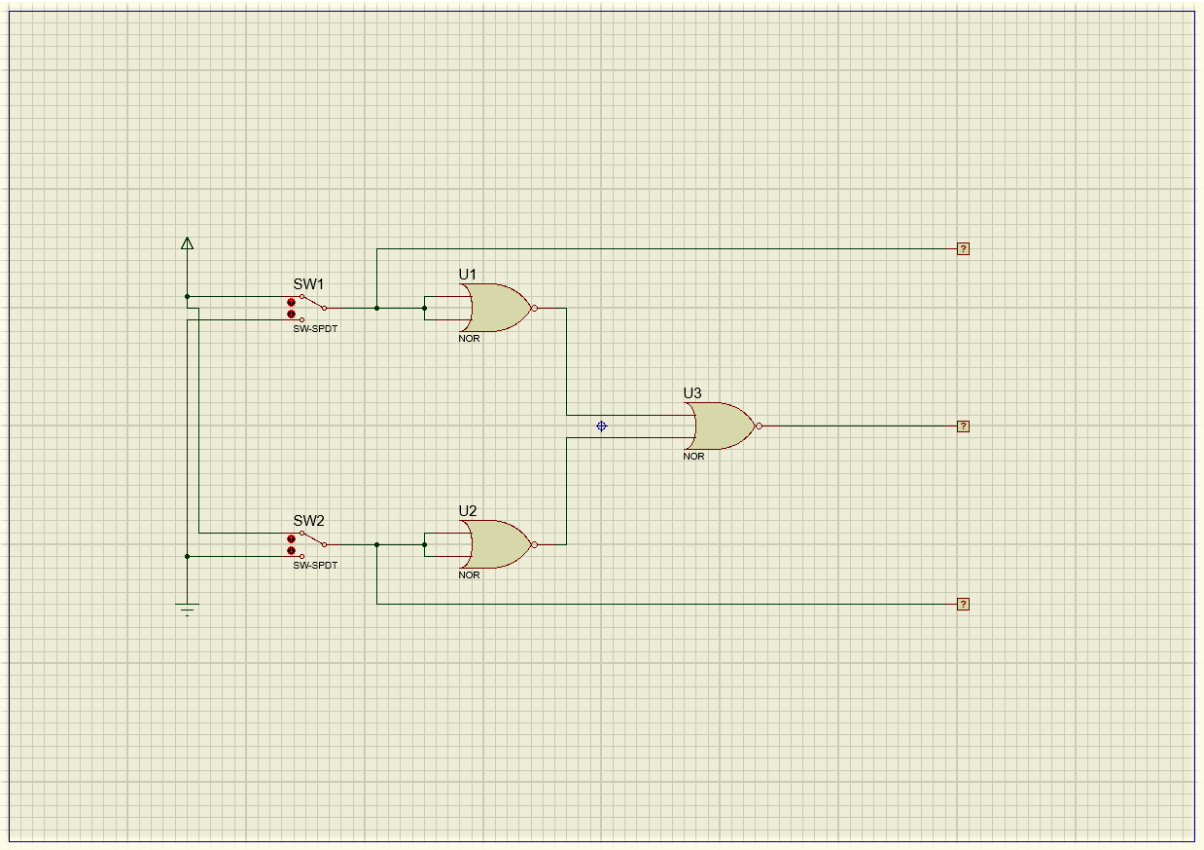
L2

L3

3. Conclusion

The NOR gate in picture 2.1 forms the logic of the OR gate

Experiment 3.



Picture 3.1. Gate 3 variation

1. Truth table

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

2. Time diagram

L1

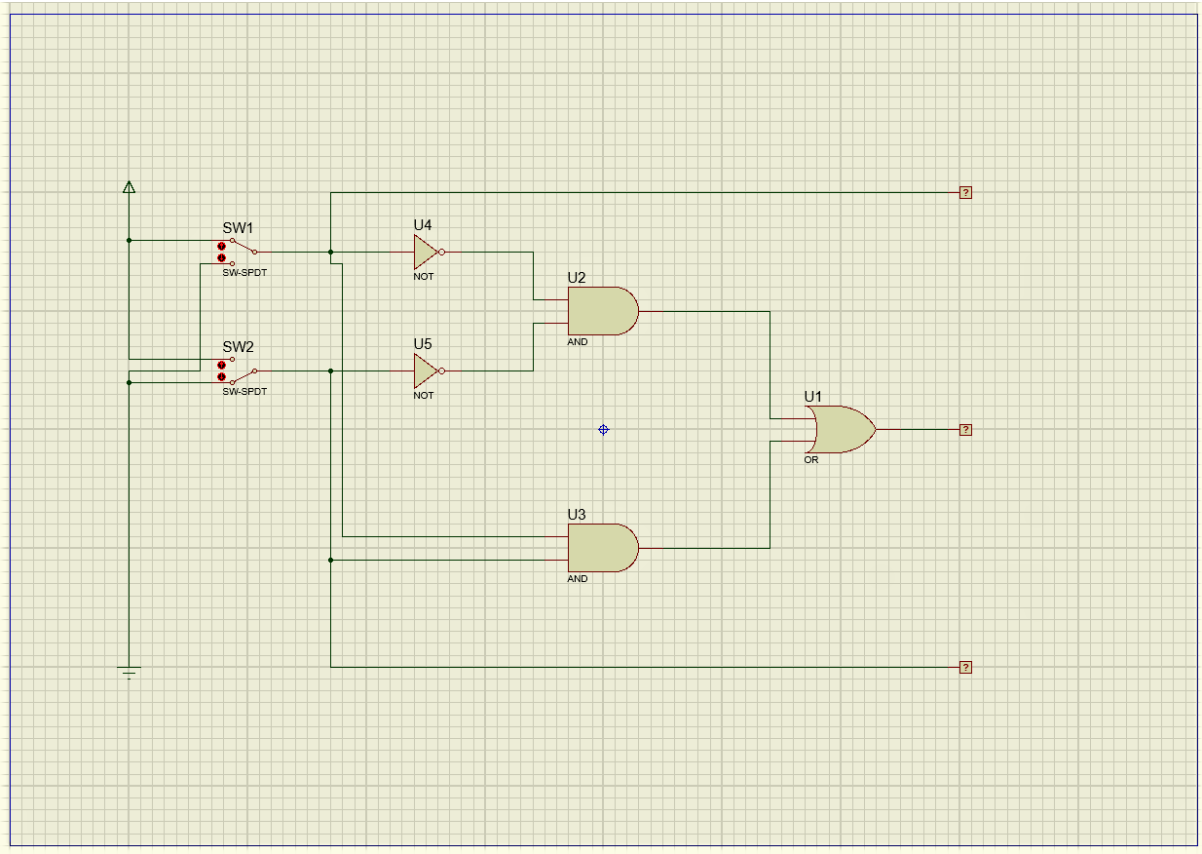
L2

L3

3. Conclusion

The NOR gate in picture 3.1 forms the logic of the AND gate

Experiment 4.



Picture 4.1. Gate 4 variation

1. Truth table

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

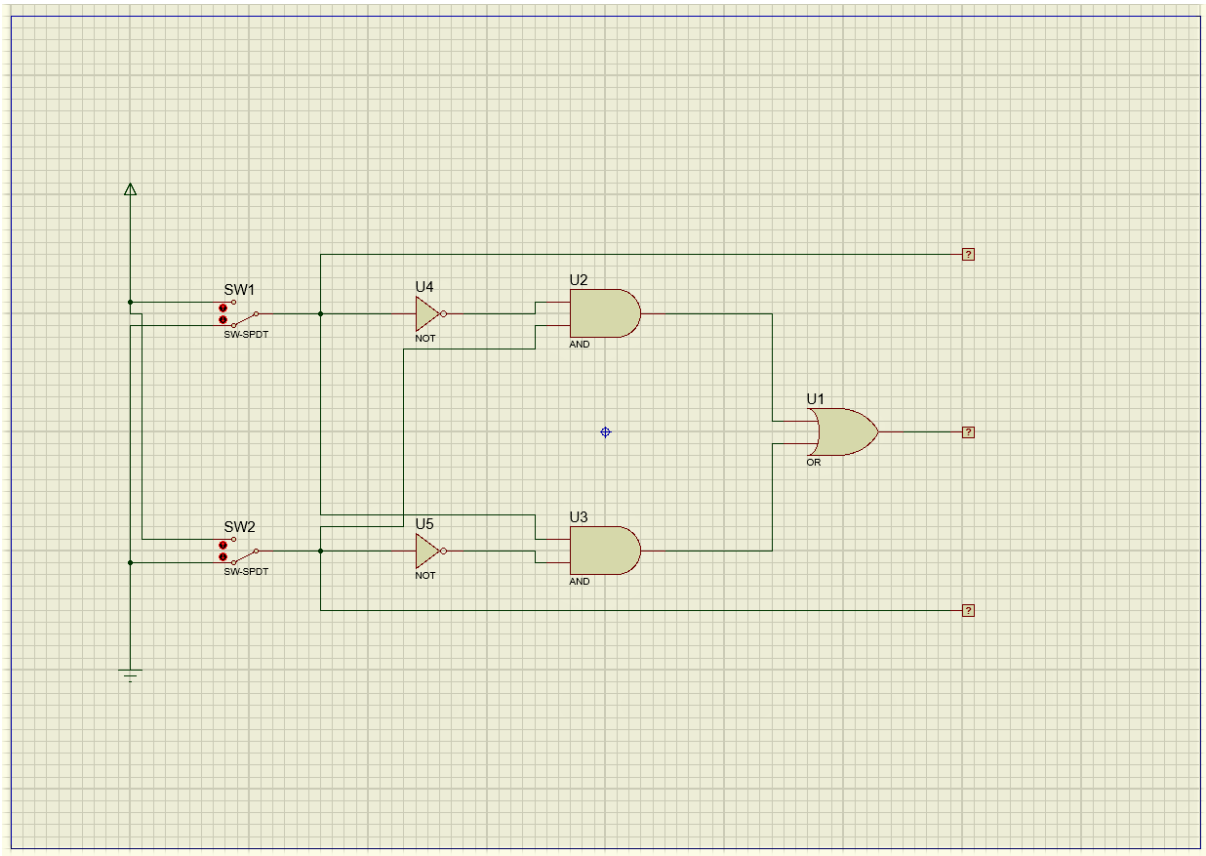
2. Time Diagram

L1

L2

3. Conclusion
    a. The NOR gate in picture 4.1 forms the logic of the XNOR gate

Experiment 5.



Picture 5.1. Gate 5 variation

1. 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	0

2. Diagram Waktu

L1

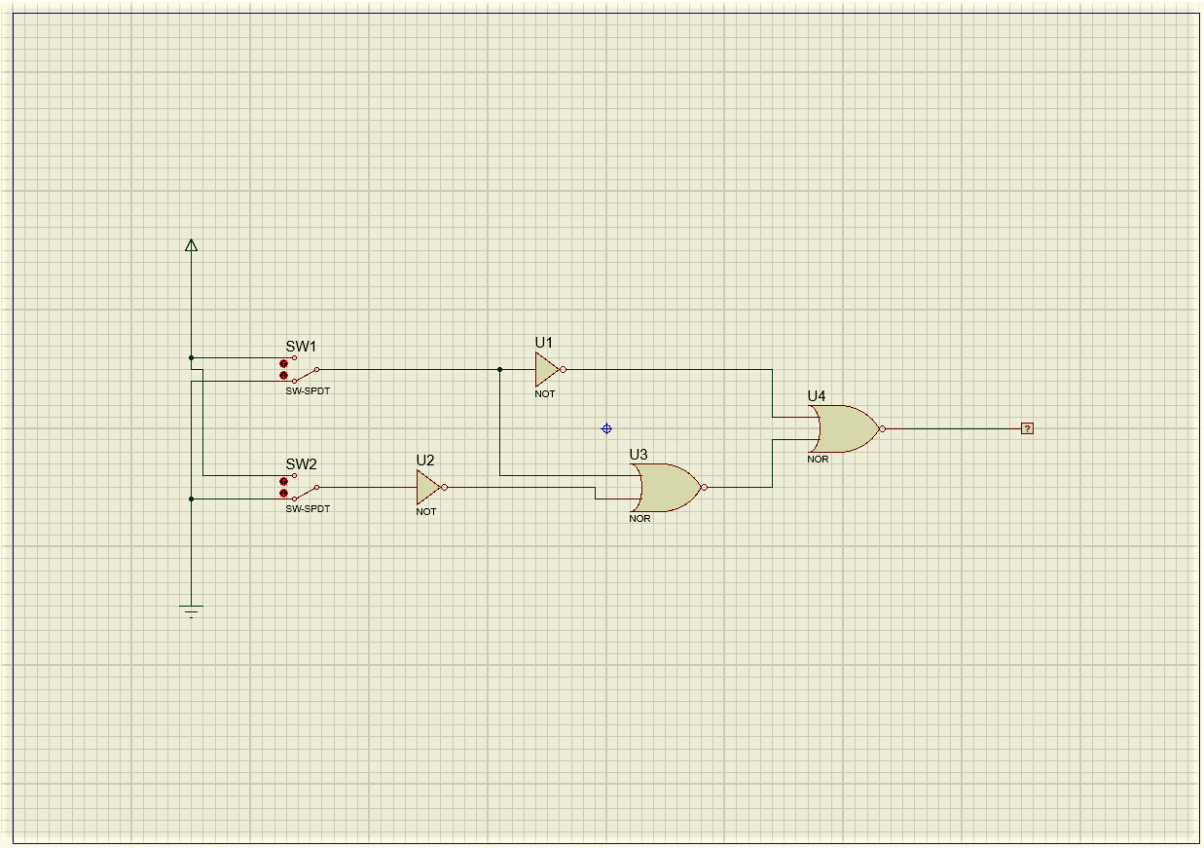
L2

L3

3. Conclusion

The NOR gate in picture 4.1 forms the logic of the XOR gate

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

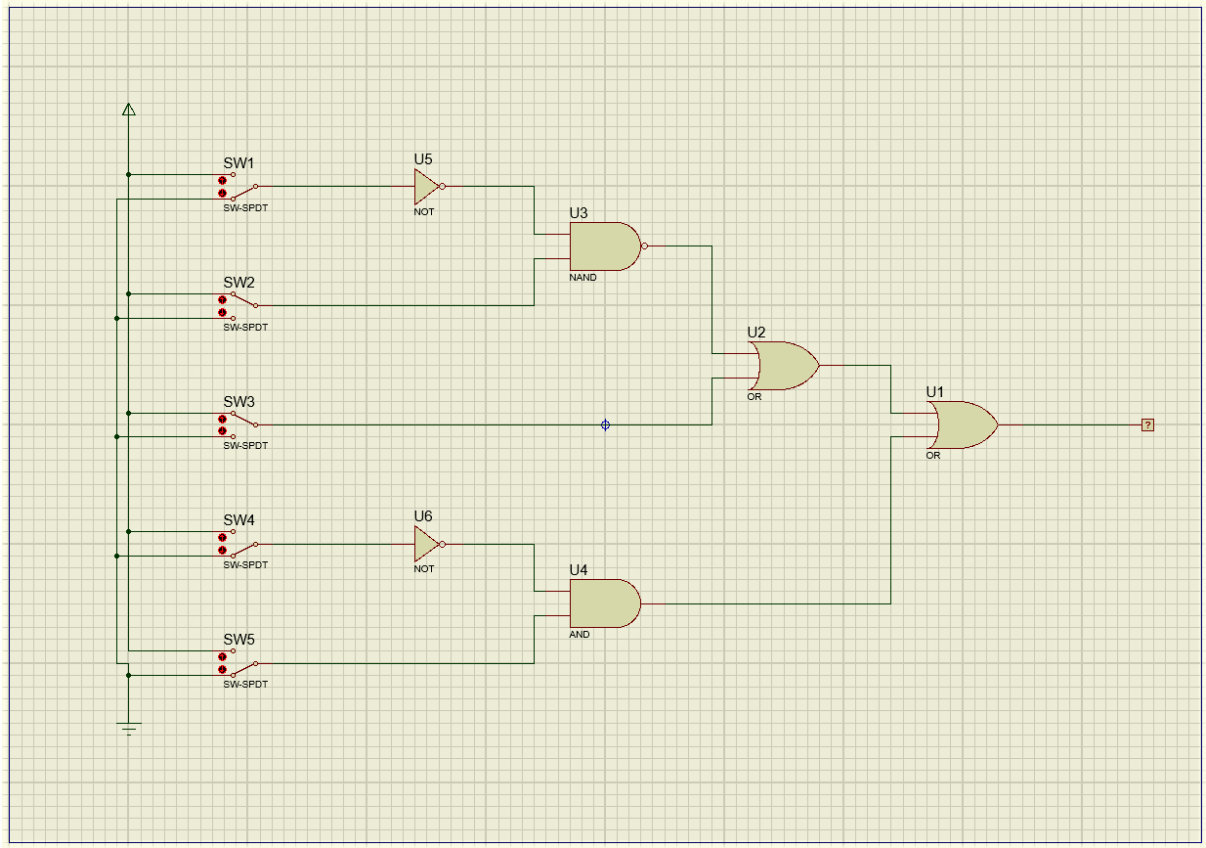
2. Time Diagram

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))