MODUL 3

GERBANG LOGIKA

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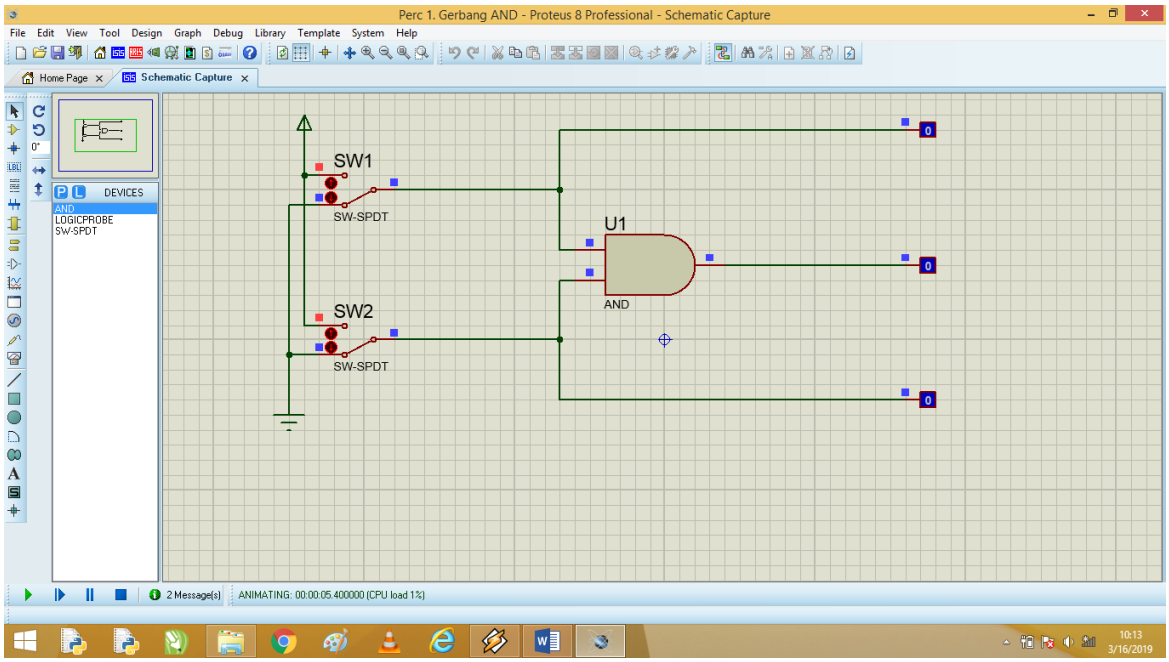
NIM : L200180066

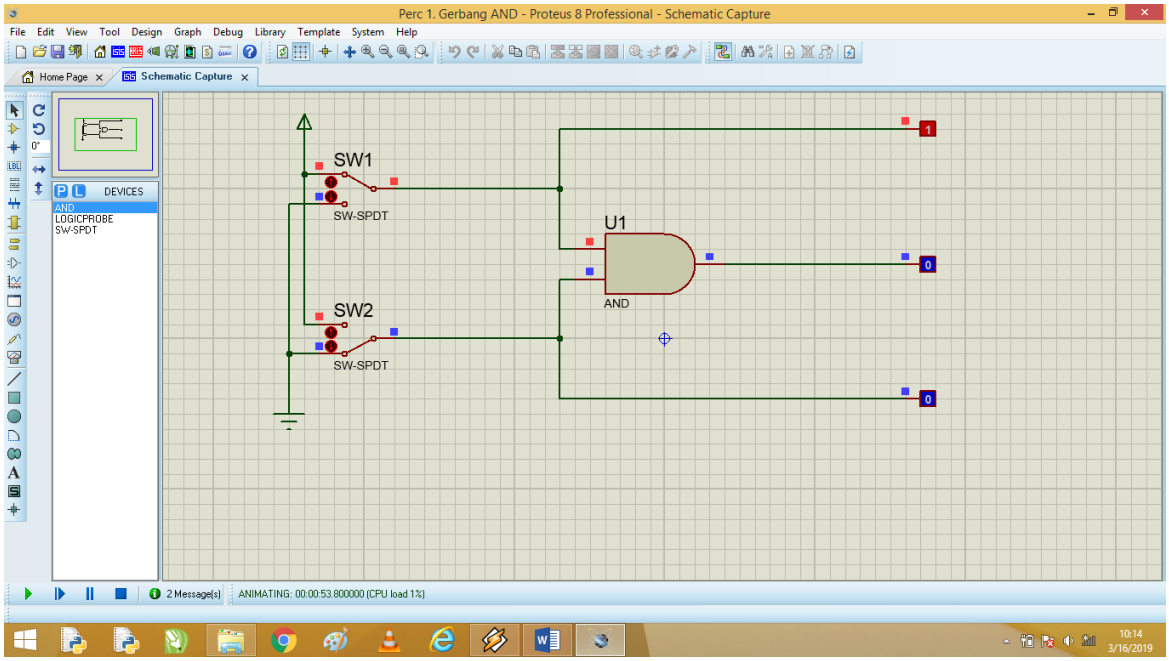
Kelas : C

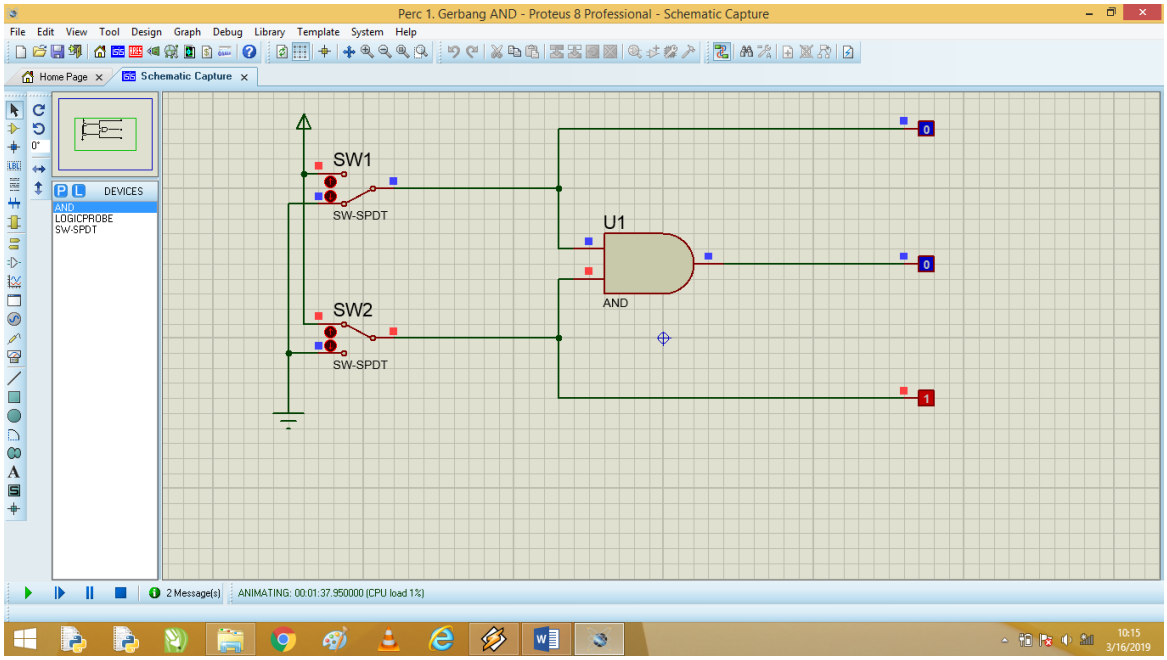
KEGIATAN PRAKTIKUM

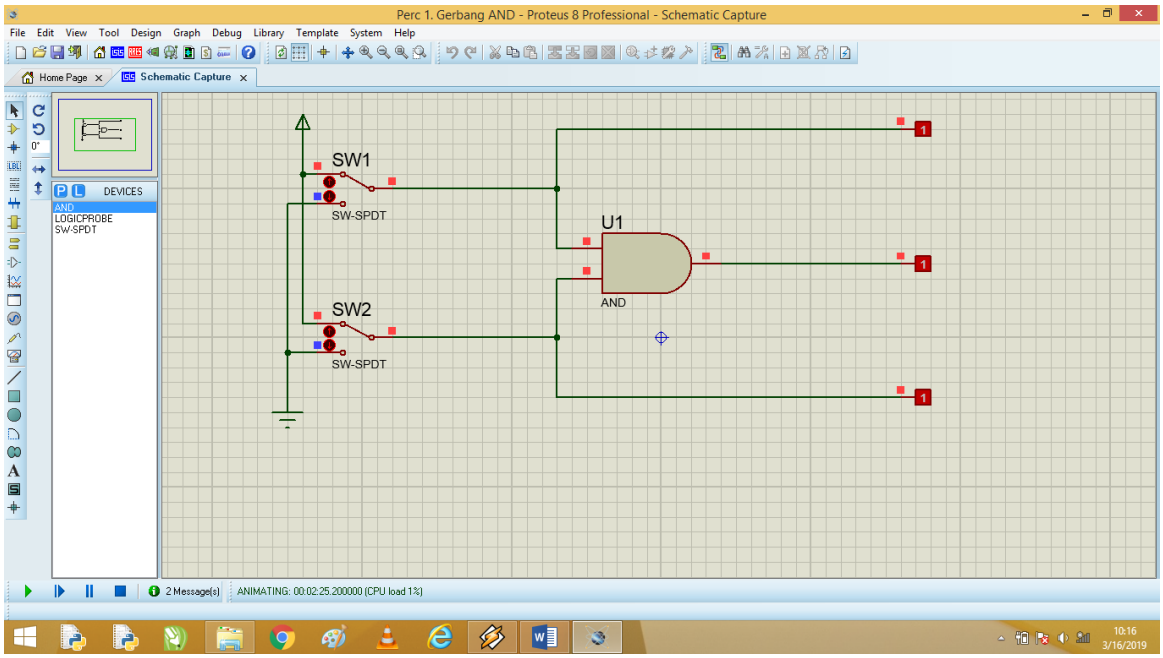
Percobaan 1. Gerbang AND

1. Screenshot rangkaian gerbang AND







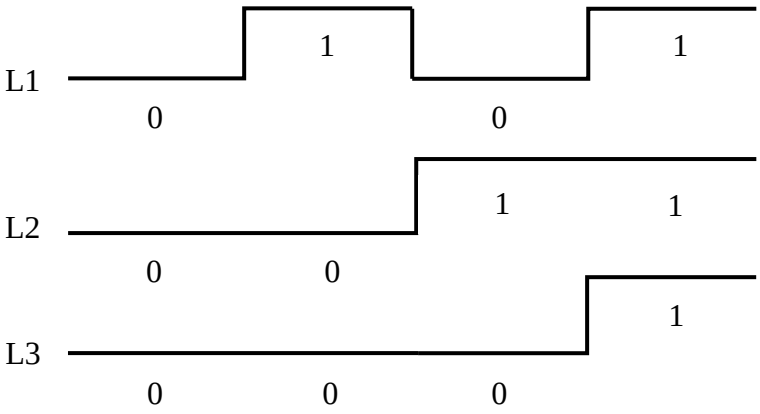


2. Fungsi Boolean : **L3 = L1 L2** atau **L3 = L1.L2**

3. Tabel kebenaran

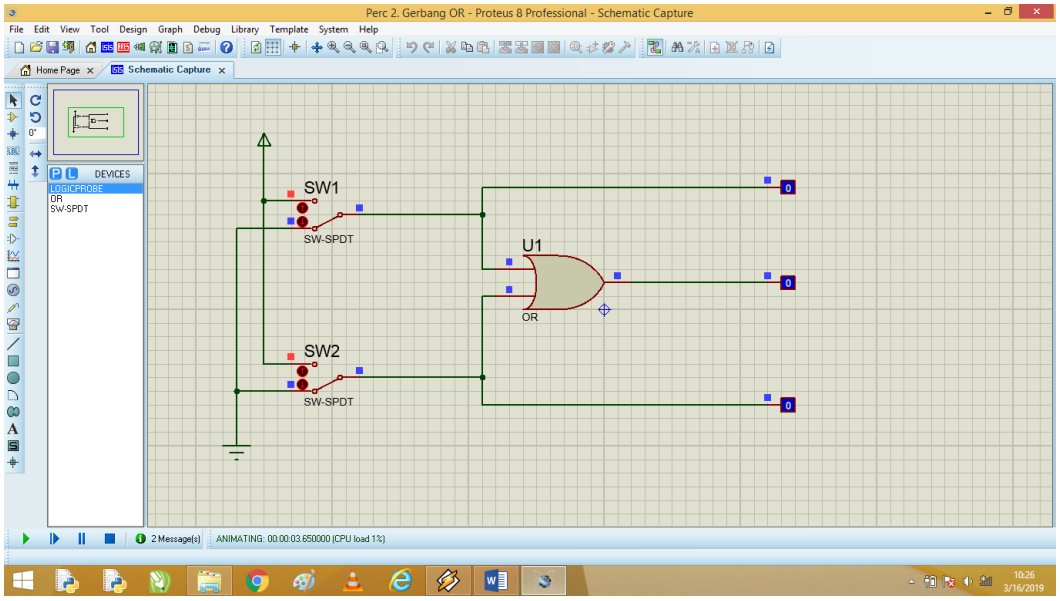
SW 1	SW 2	L1	L2	L3
0	0	0	0	0
1	0	1	0	0
0	1	0	1	0
1	1	1	1	1

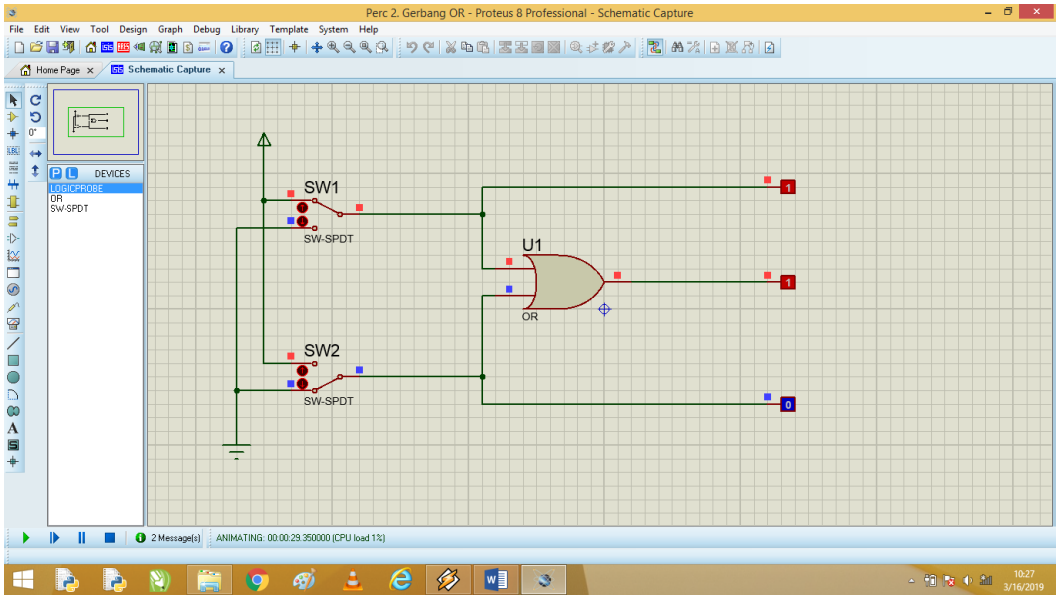
4. Diagram Waktu

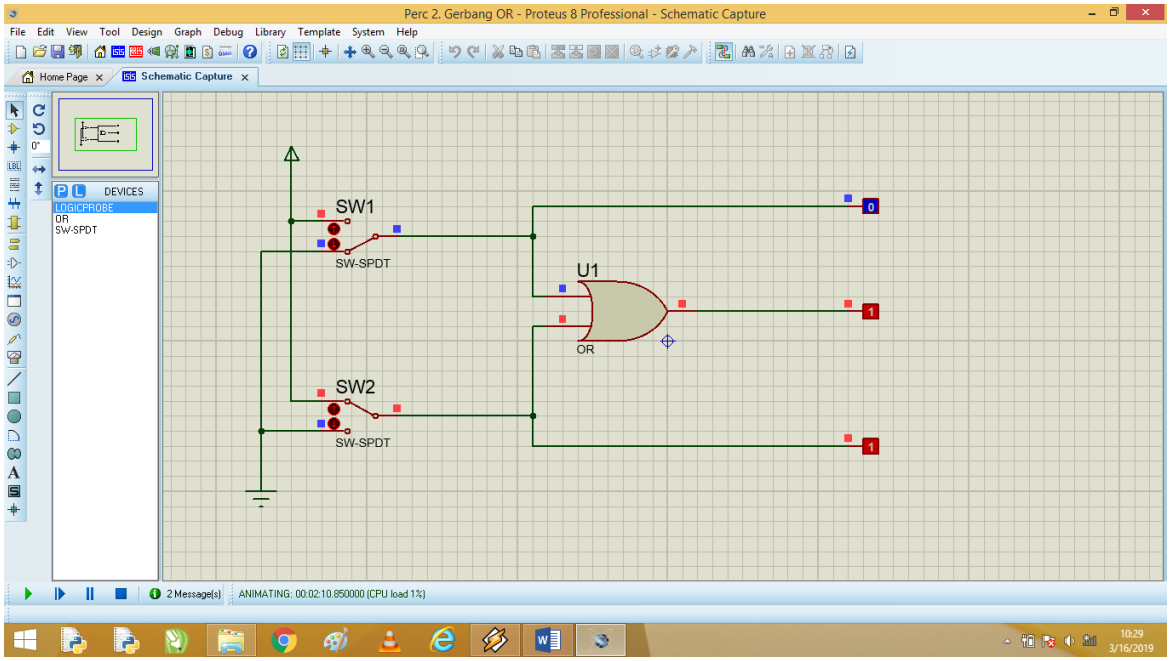


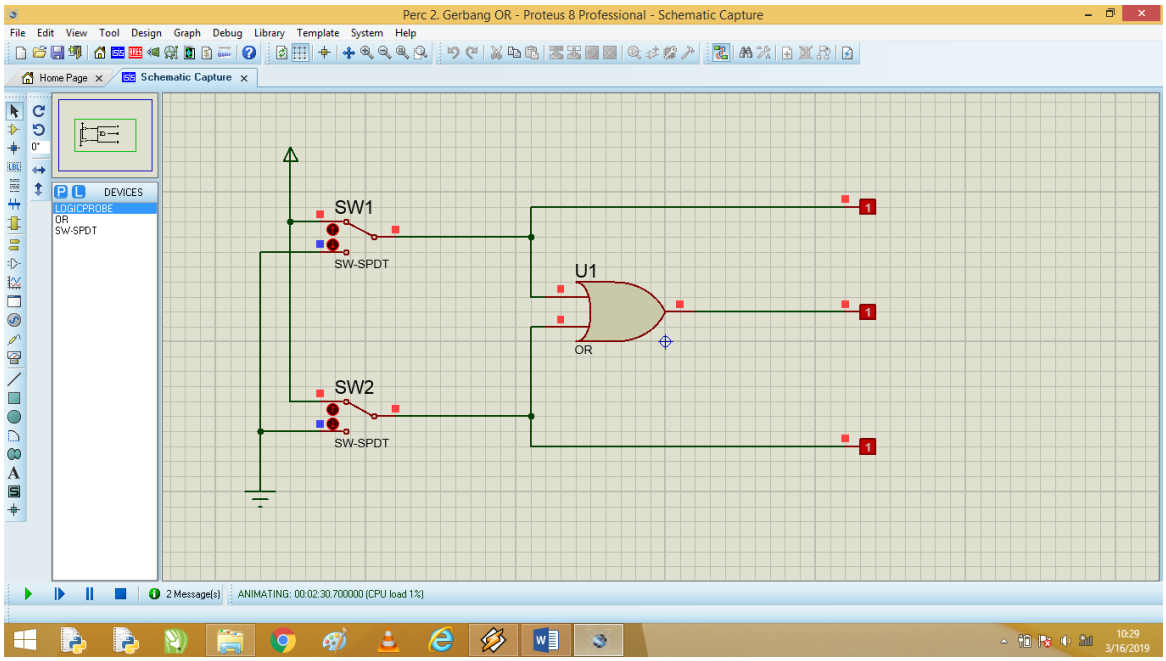
Percobaan 2. Gerbang OR

1. Screenshot rangkaian gerbang OR







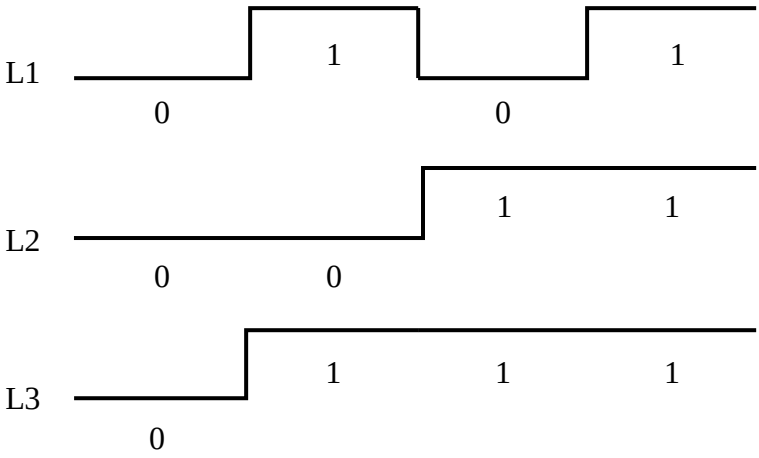


2. Fungsi Boolean : **L3 = L1 + L2**

3. Tabel kebenaran

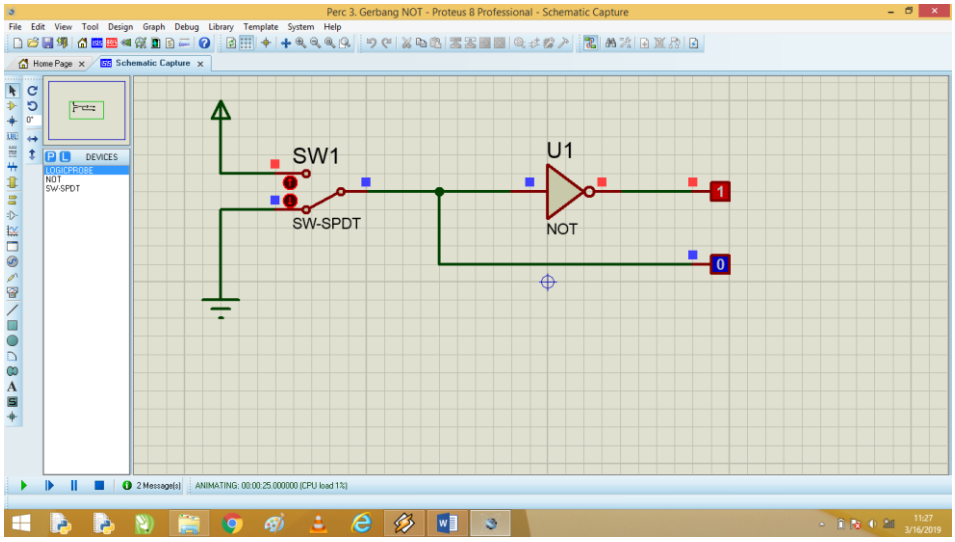
SW 1	SW 2	L1	L2	L3
0	0	0	0	0
1	0	1	0	1
0	1	0	1	1
1	1	1	1	1

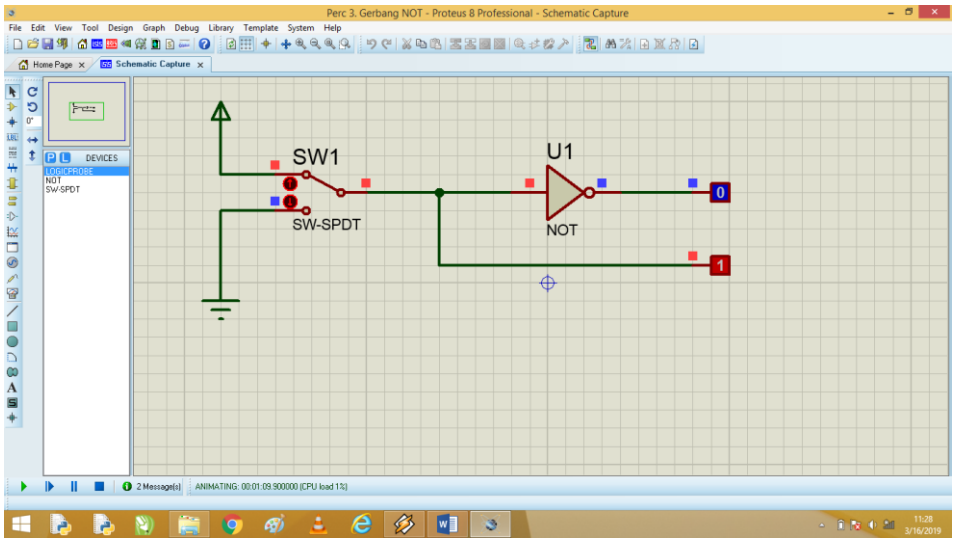
4. Diagram Waktu



Percobaan 3. Gerbang NOT

1. Screenshot rangkaian gerbang NOT



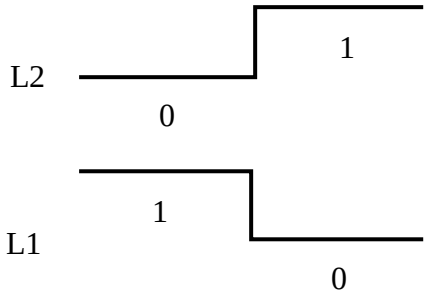


2. Fungsi Boolean : **L1 = ~L2** atau **L1 = $\overline{\mathbf{L2}}$**

3. Tabel kebenaran

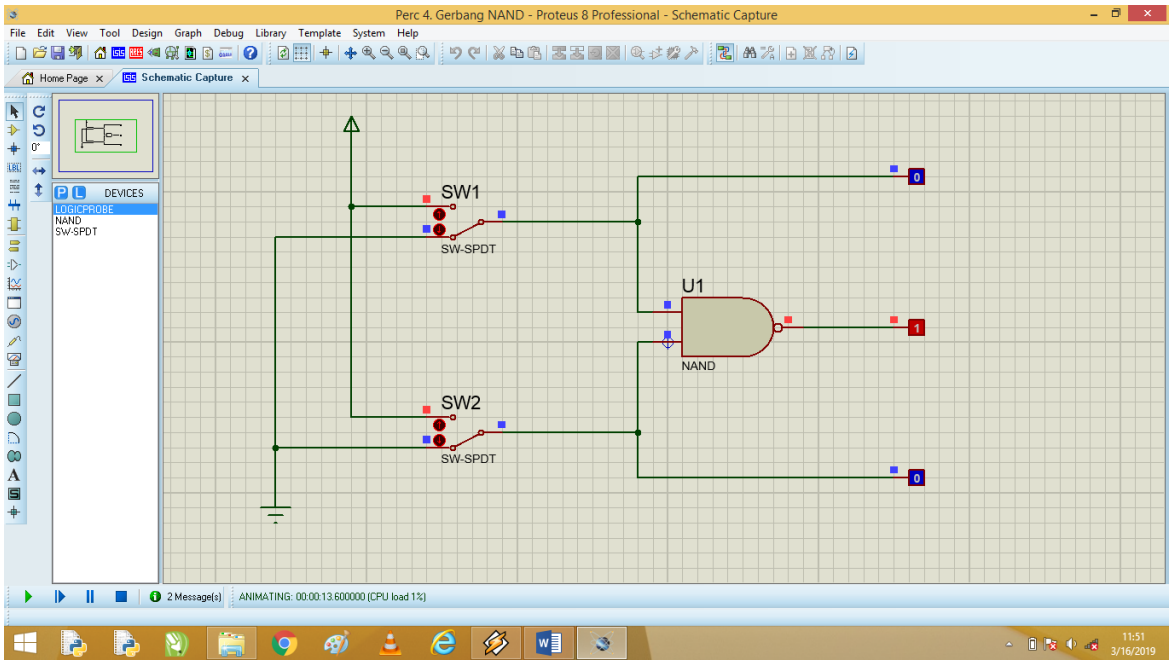
SW 1	L2	L1
0	0	1
1	1	0

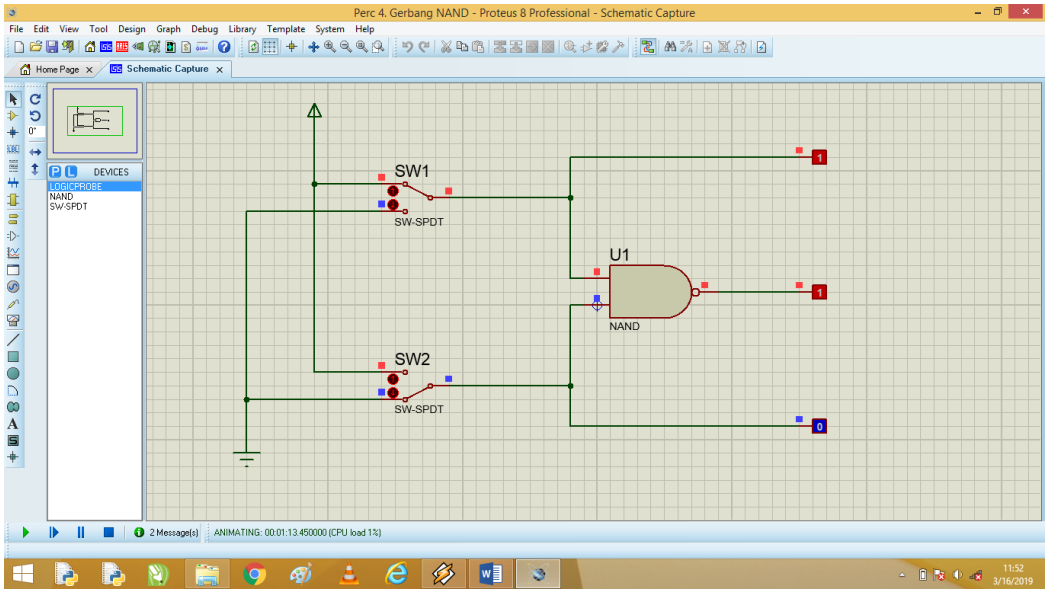
4. Diagram Waktu

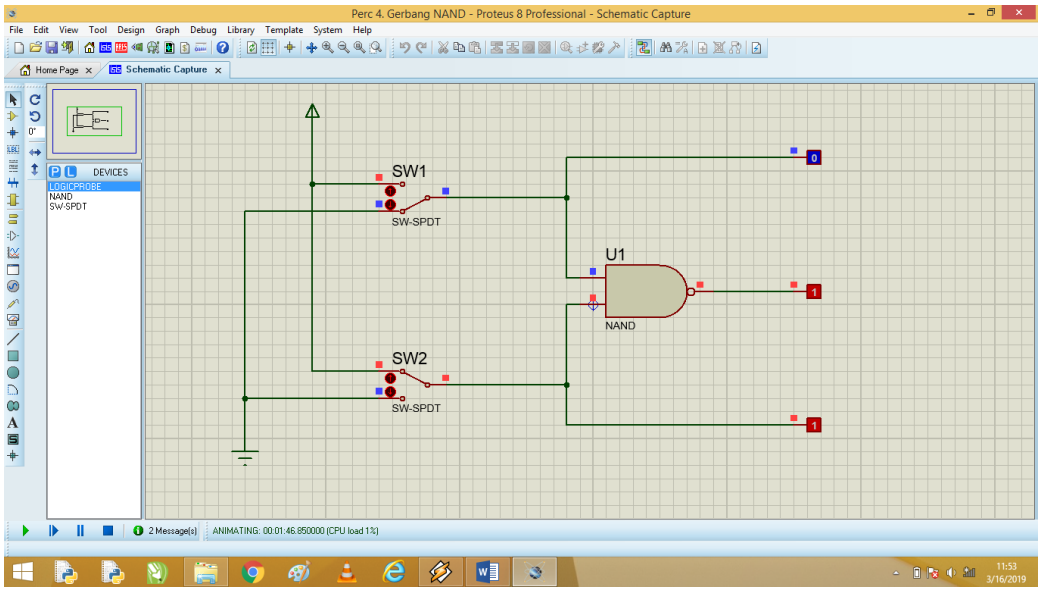


Percobaan 4. Gerbang NAND

1. Screenshot rangkaian gerbang NAND




Perc 4. Gerbang NAND - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Home Page
Schematic Capture
DEVICES
LOGICPROBE
NAND
SW-SPDT
SW1
SW-SPDT
U1
NAND
SW2
SW-SPDT
1
1
0
2 Message(s)
ANIMATING: 00:01:13.450000 (CPU load 1%)
11:52
3/16/2019


Perc 4. Gerbang NAND - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Home Page
Schematic Capture
DEVICES
LOGICPROBE
NAND
SW-SPDT
SW1
SW-SPDT
U1
NAND
SW2
SW-SPDT
0
1
1
2 Message(s)
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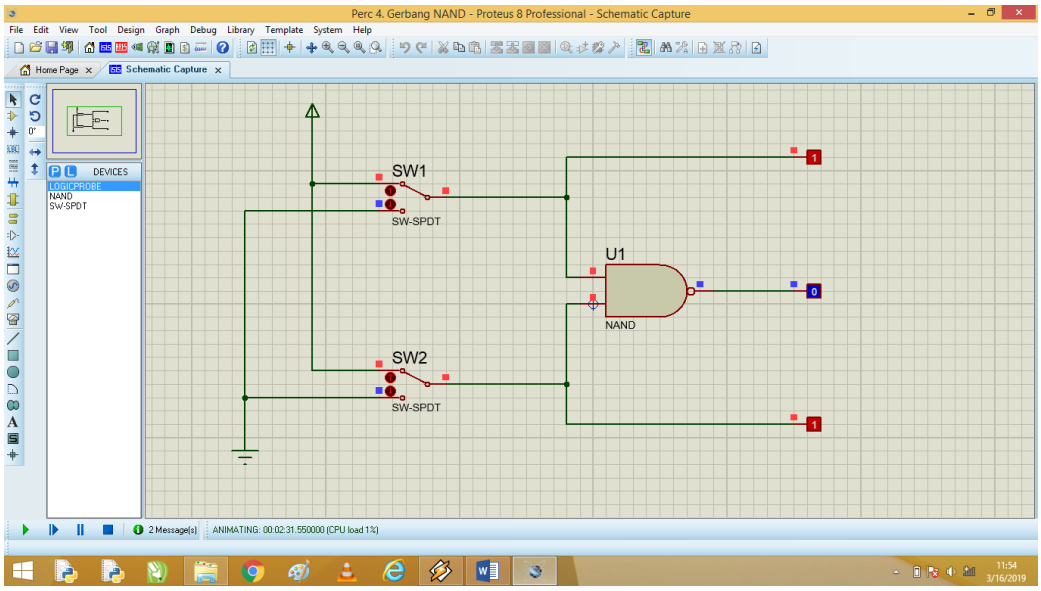
11:53
3/16/2019

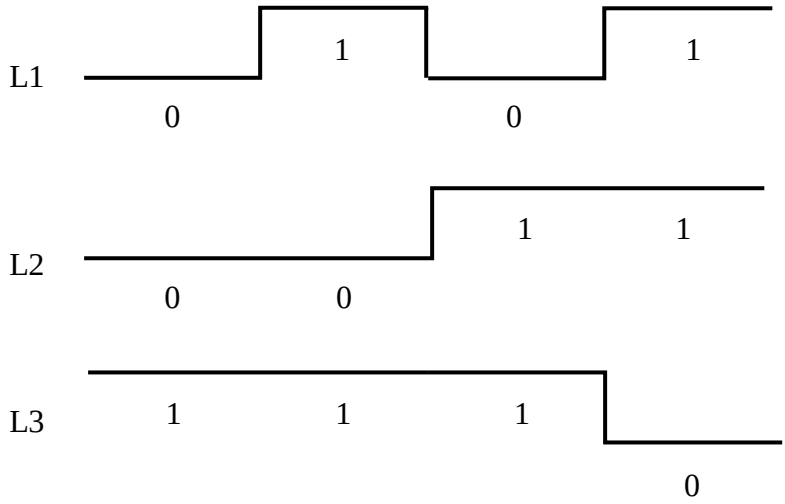

Perc 4. Gerbang NAND - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Home Page
Schematic Capture
DEVICES
LOGICPROBE
NAND
SW-SPDT
SW1
SW-SPDT
U1
NAND
SW2
SW-SPDT
1
0
1
2 Message(s)
ANIMATING: 00:02:31.550000 (CPU load 1%)
11:54
3/16/2019

2. Fungsi Boolean : **L3 = $\overline{\text{L1 L2}}$** atau **$\overline{\text{L1.L2}}$**

3. Tabel kebenaran

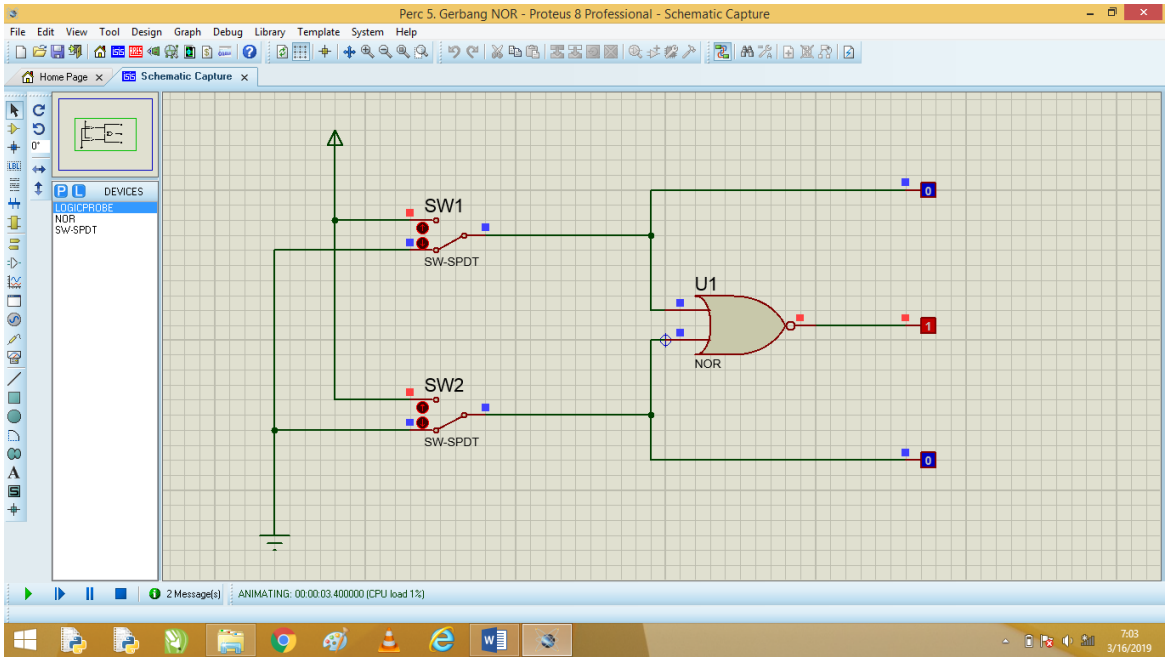
SW 1	SW 2	L1	L2	L3
0	0	0	0	1
1	0	1	0	1
0	1	0	1	1
1	1	1	1	0

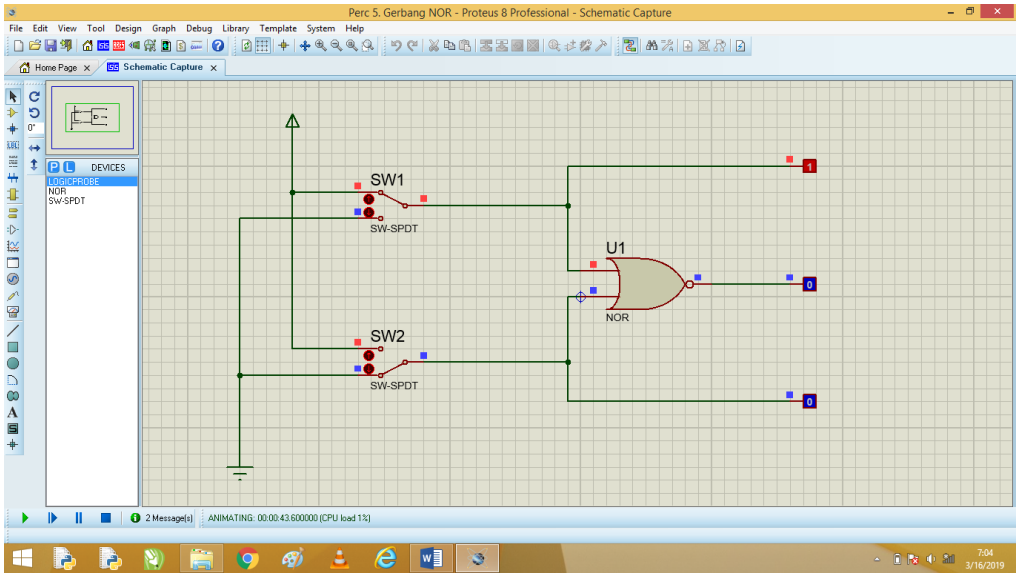
4. Diagram Waktu

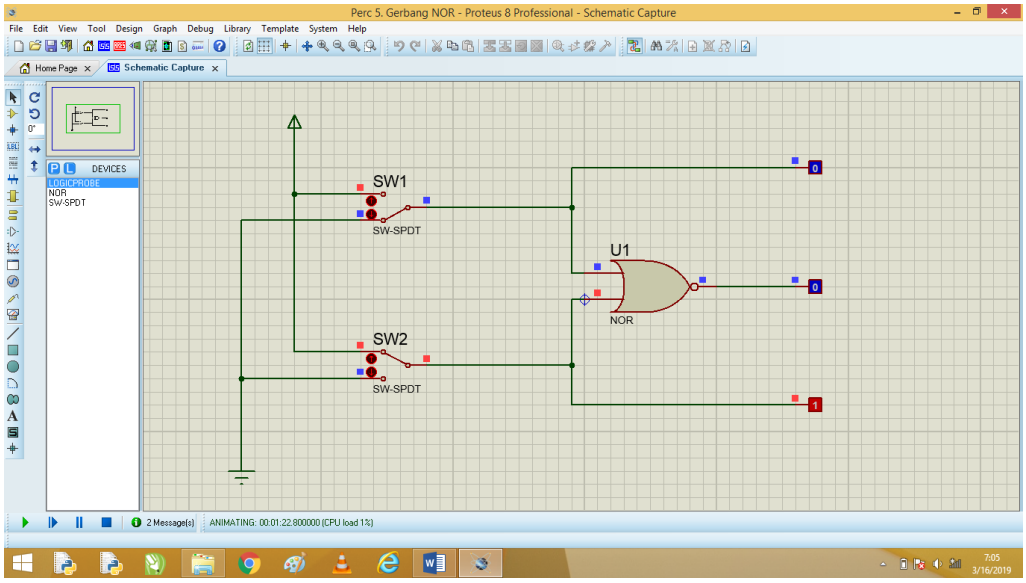


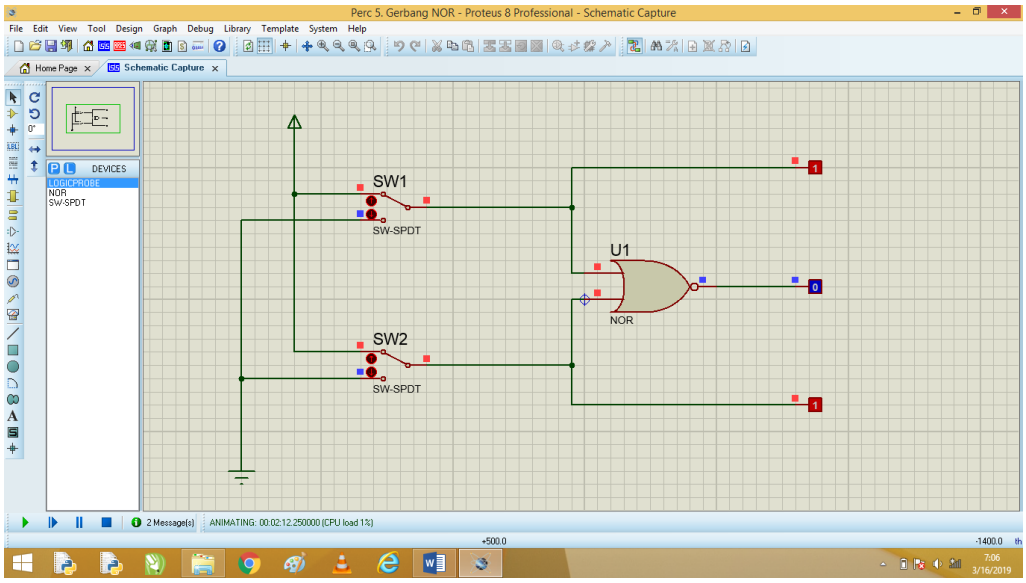
Percobaan 5. Gerbang NOR

1. Screenshot rangkaian gerbang NOR




Perc 5. Gerbang NOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1
NOR
1
0
0


Perc 5. Gerbang NOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1
NOR
0
0
1

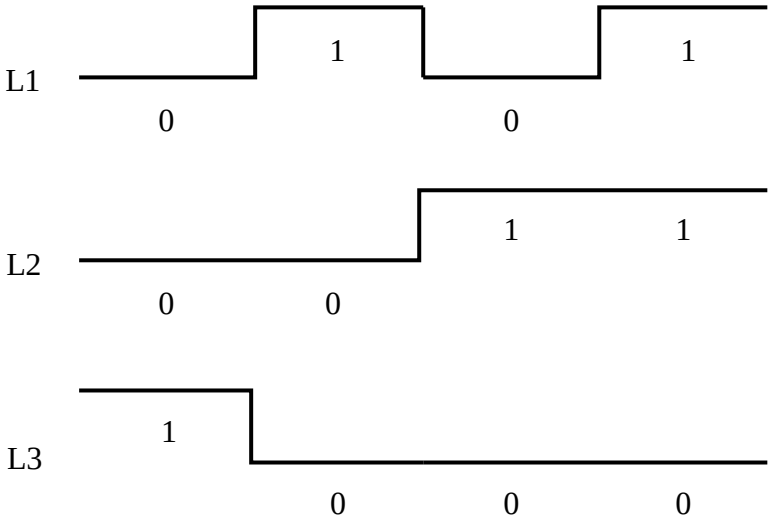

Perc 5. Gerbang NOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1
NOR
1
0
1

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

3. Tabel kebenaran

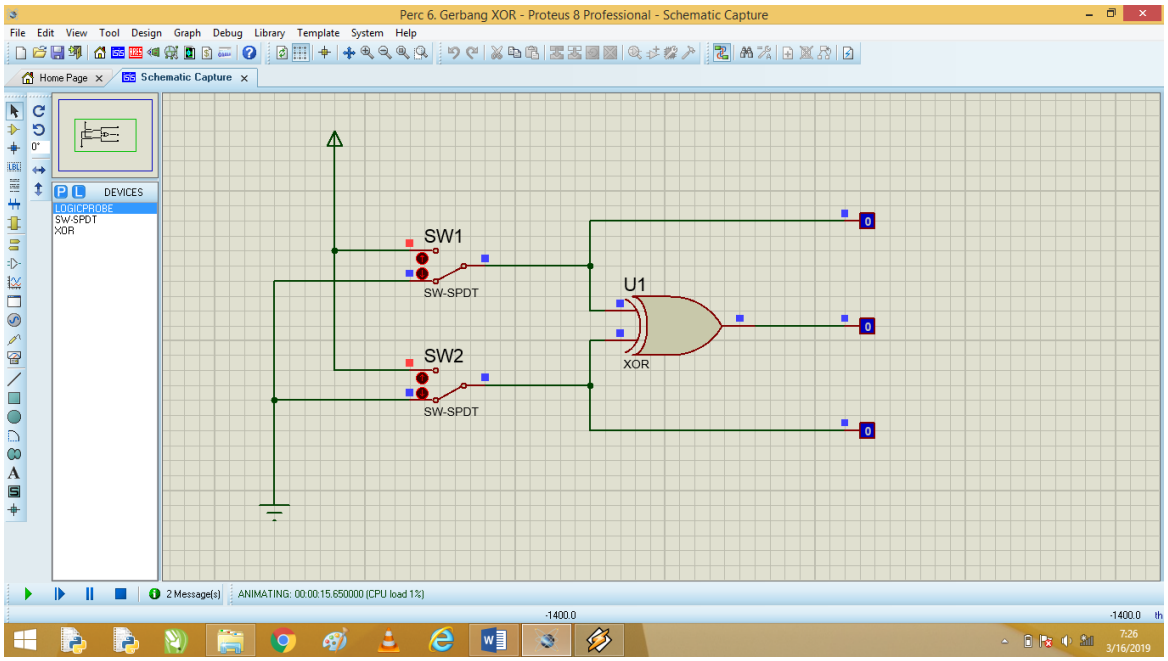
SW 1	SW 2	L1	L2	L3
0	0	0	0	1
1	0	1	0	0
0	1	0	1	0
1	1	1	1	0

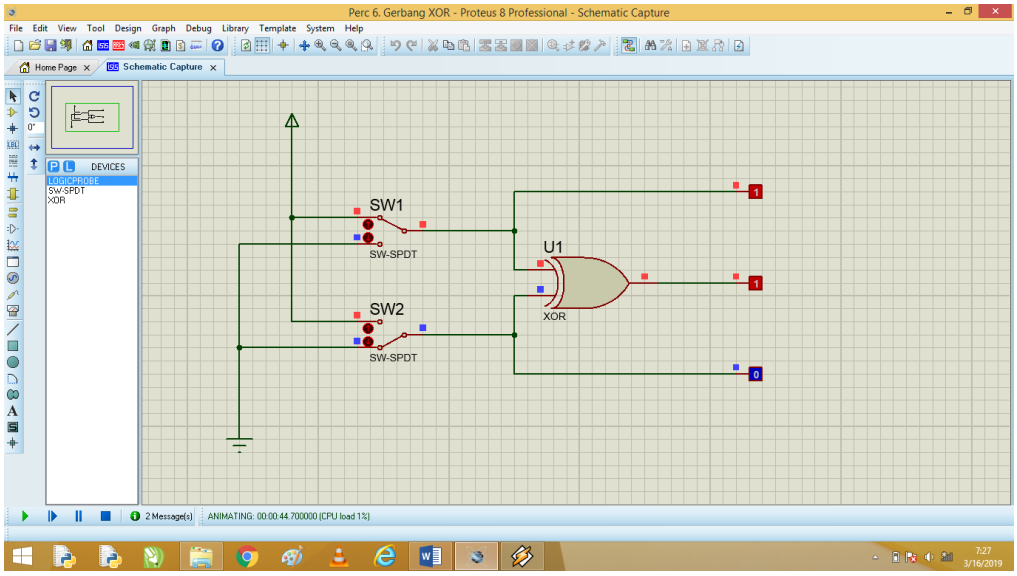
4. Diagram Waktu

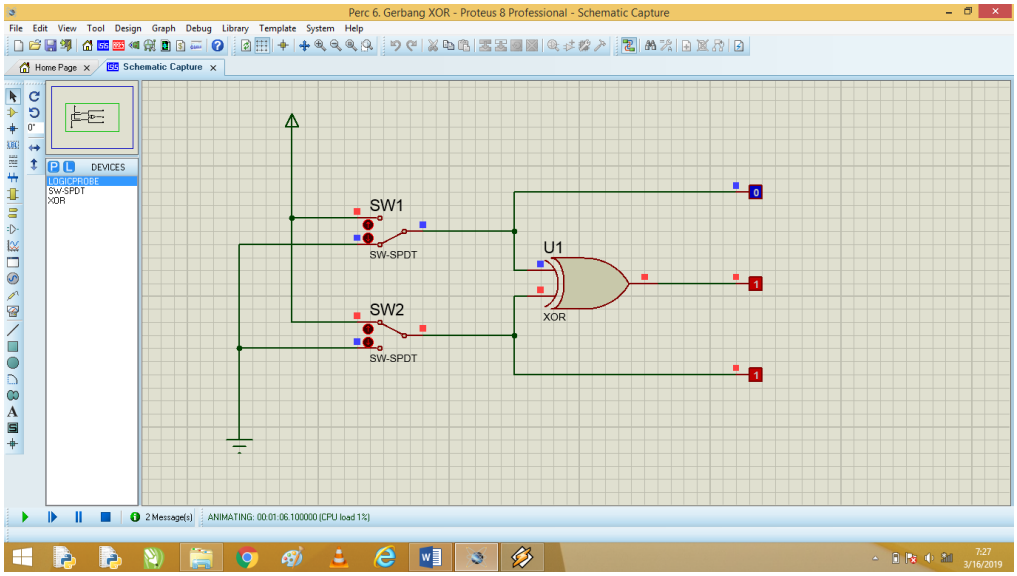


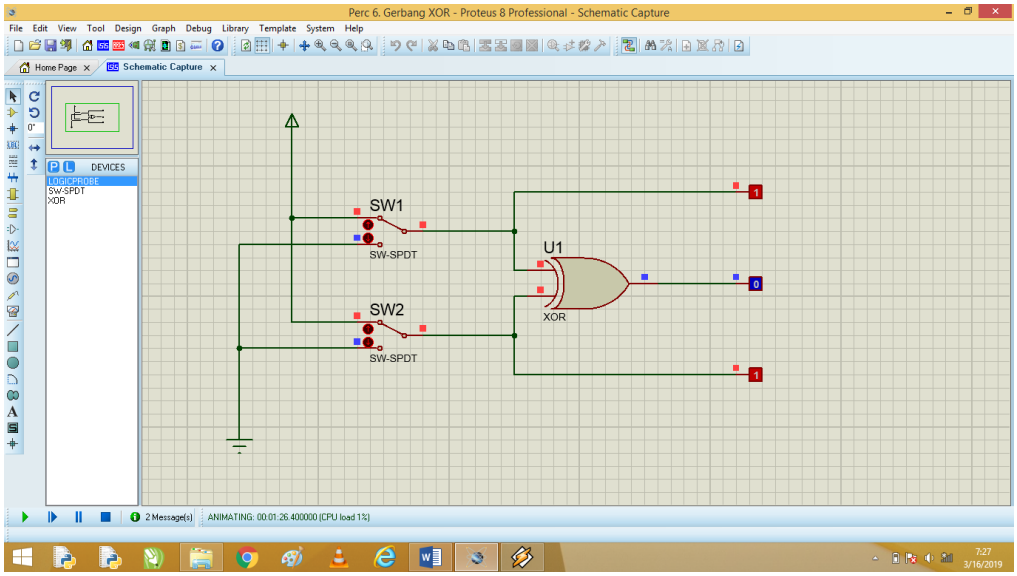
Percobaan 6. Gerbang XOR

1. Screenshot rangkaian gerbang XOR




Perc 6. Gerbang XOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1
XOR
1
1
0


Perc 6. Gerbang XOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1
XOR
0
1
1

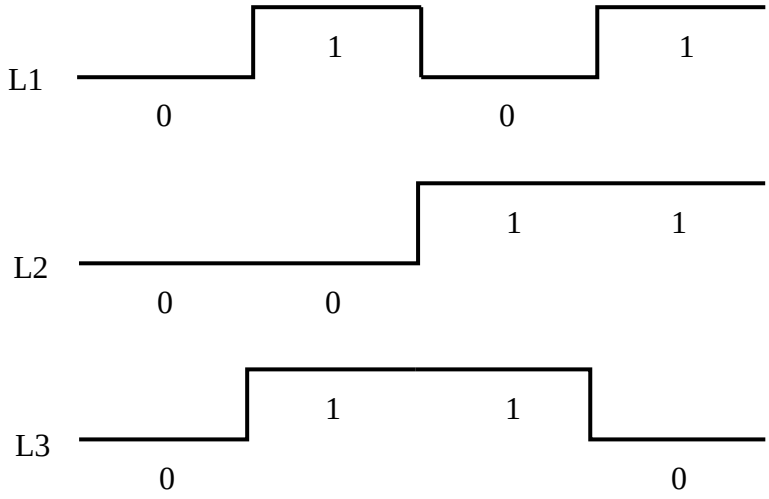

Perc 6. Gerbang XOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1
XOR
1
0
1

2. Fungsi Boolean : **L3 = L1 ⊕ L2**

3. Tabel kebenaran

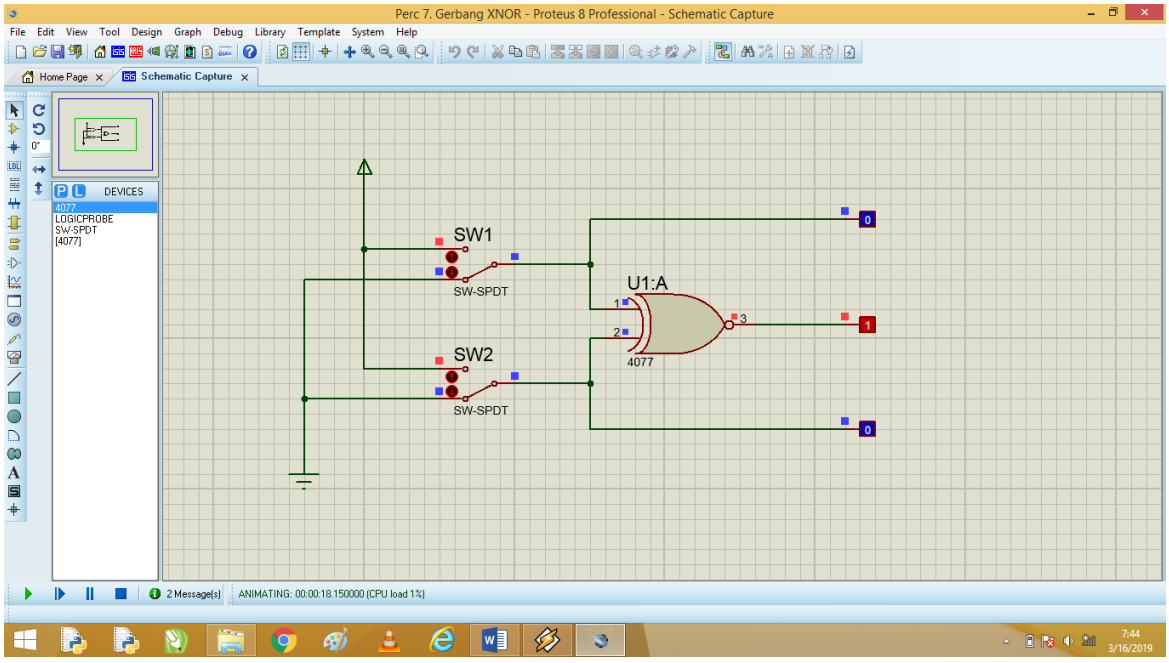
SW 1	SW 2	L1	L2	L3
0	0	0	0	0
1	0	1	0	1
0	1	0	1	1
1	1	1	1	0

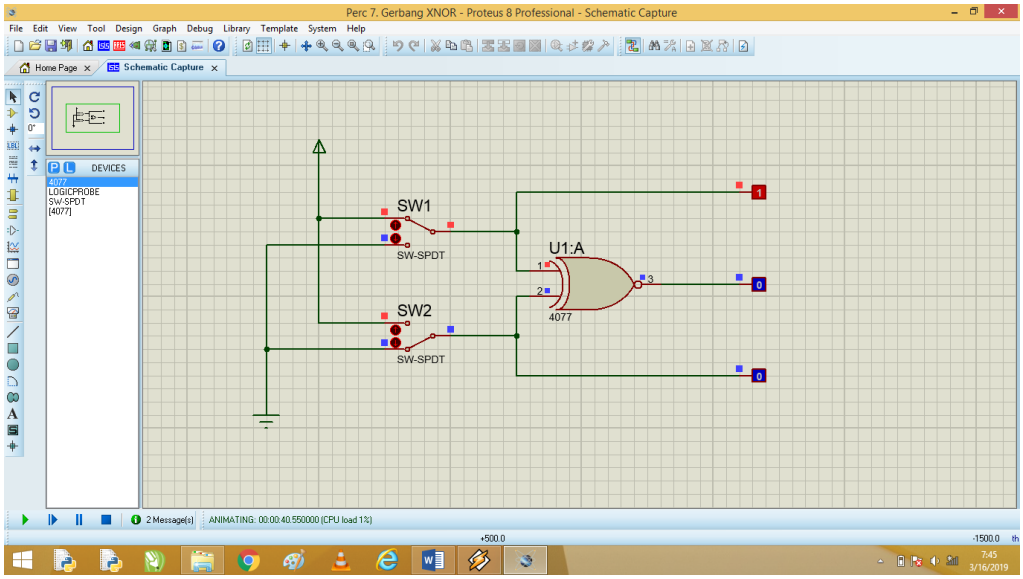
4. Diagram Waktu

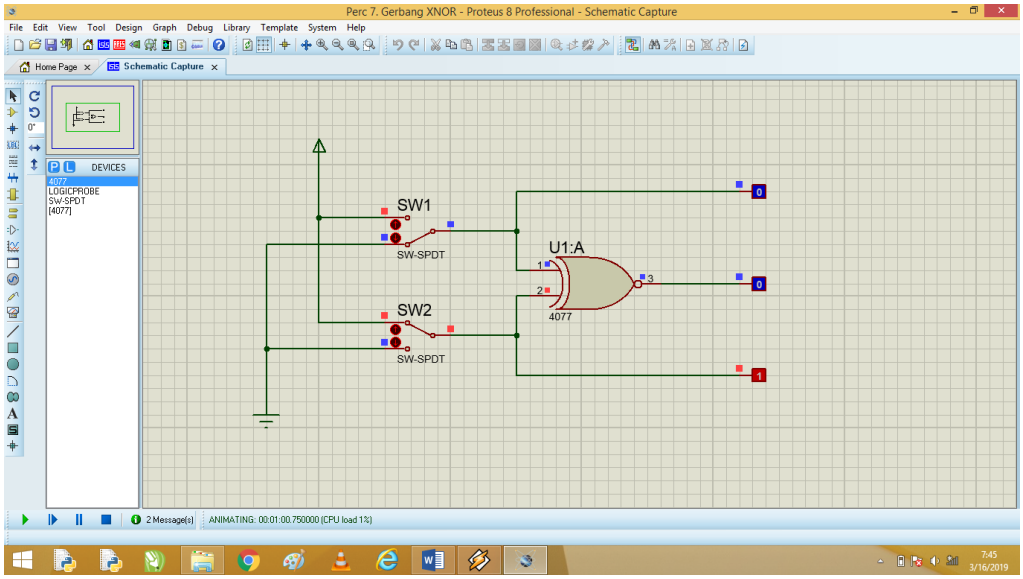


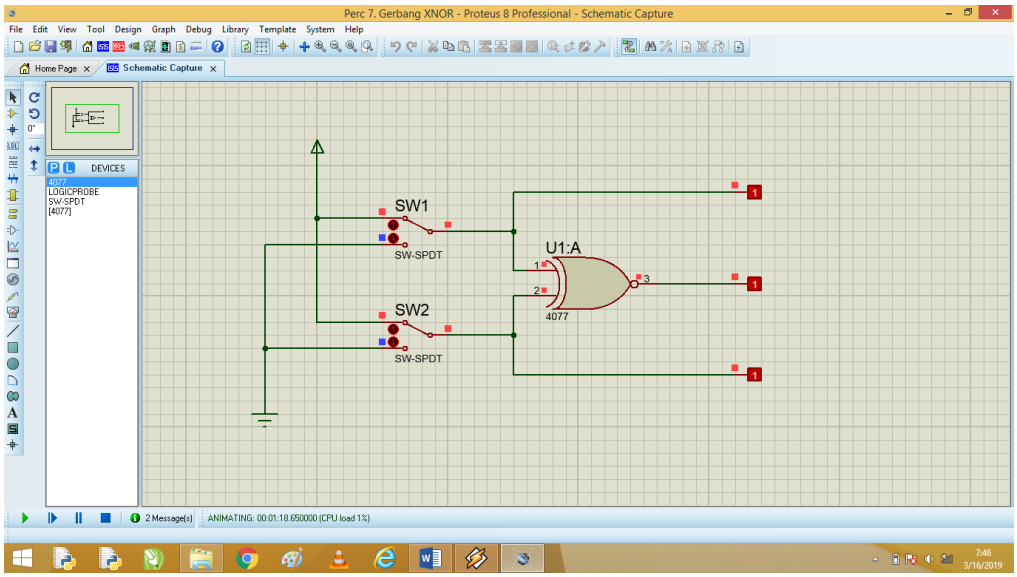
Percobaan 7. Gerbang XNOR

1. Screenshot rangkaian gerbang XNOR



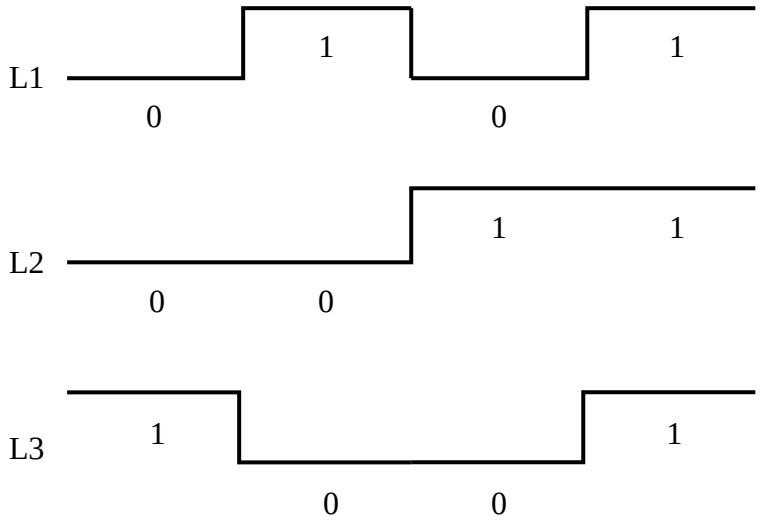

Perc 7. Gerbang XNOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1:A
4077
1
0
0


Perc 7. Gerbang XNOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1:A
4077
0
0
1


Perc 7. Gerbang XNOR - Proteus 8 Professional - Schematic Capture
SW1
SW-SPDT
SW2
SW-SPDT
U1:A
4077
1
1
1

2. Fungsi Boolean : $\mathbf{L3 = \overline{L1 \oplus L2}}$

3. Tabel kebenaran

SW 1	SW 2	L1	L2	L3
0	0	0	0	1
1	0	1	0	0
0	1	0	1	0
1	1	1	1	1

4. Diagram Waktu