

LAB WORK
DIGITAL SYSTEM
SEMESTER GENAP



Disusun oleh:

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PROGRAM STUDI INFORMATIKA
FAKULTAS KOMUNIKASI DAN INFORMATIKA
MUHAMMADIYAH UNIVERSITY OF SURAKARTA

MODUL 6

PETA KARNAUGH

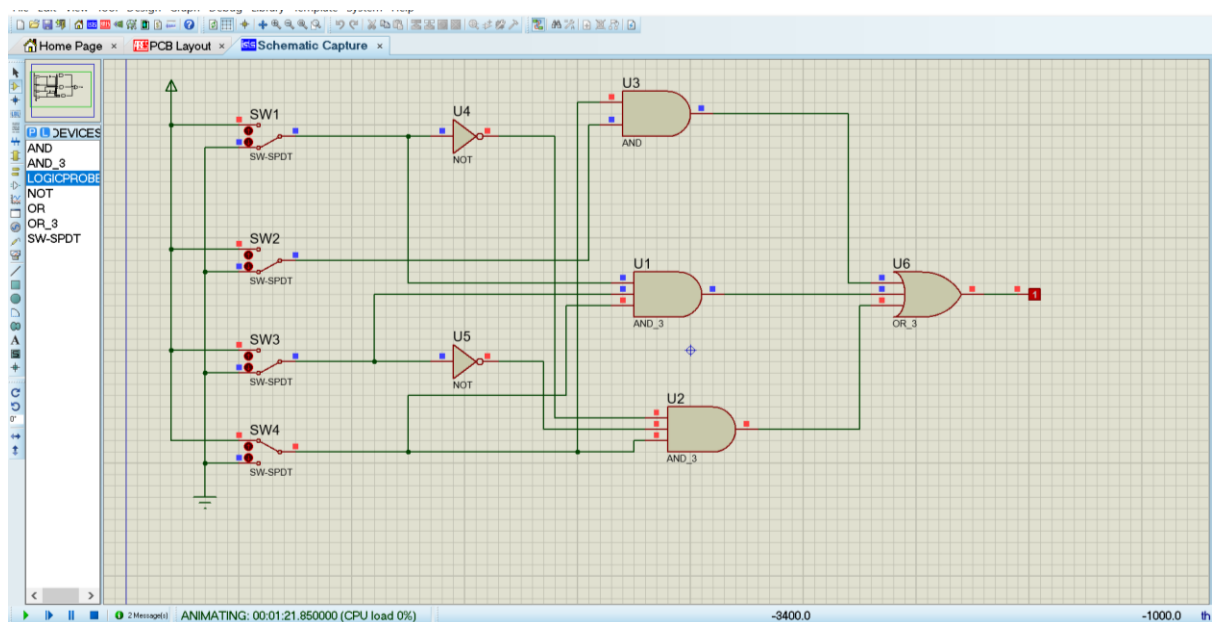
Kegiatan Praktikum

Percobaan 1

1. Buat kombinasi gerbang logika berdasarkan peta karnaugh berikut.

		AB			
		00	01	11	10
CD	00	0	0	0	0
	01	1	1	1	0
	11	0	1	1	1
	10	0	0	0	0

2. Fungsi Boolean : $F = BD + ACD + A'C'D$
3. Buatlah gerbang logika berdasarkan fungsi Boolean!



Percobaan 2

1. Buat kombinasi gerbang logika berdasarkan peta karnaugh berikut.

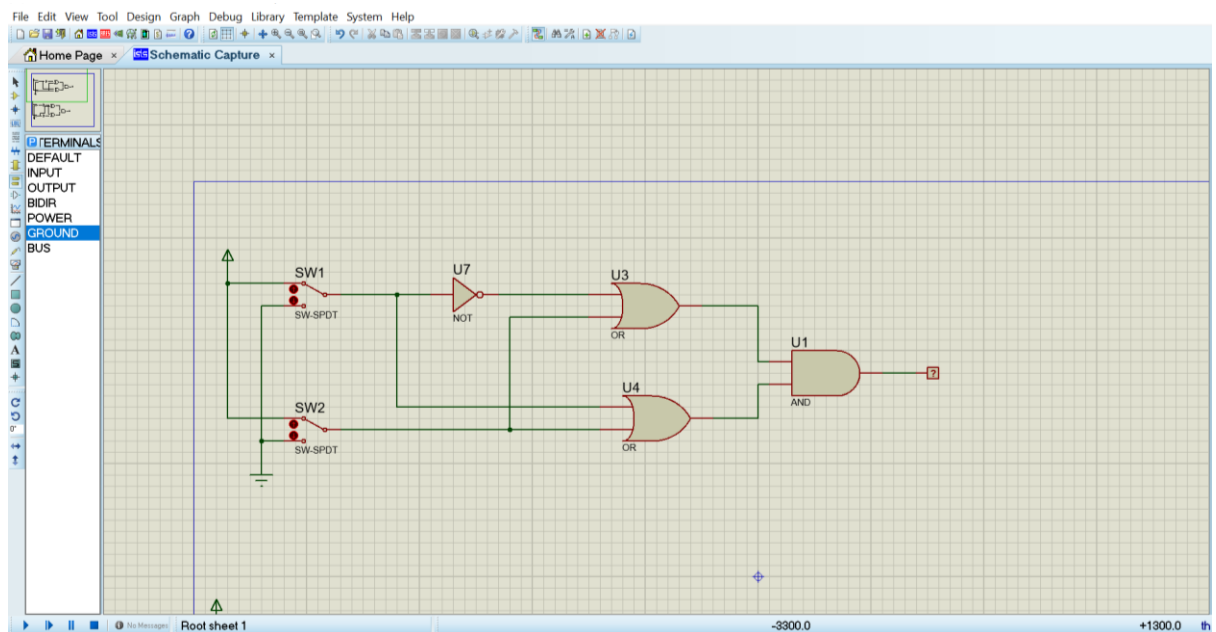
		AB			
		00	01	11	10
AC	00	1	0	0	1
	01	0	1	1	0
	11	0	1	1	0
	10	1	0	0	1

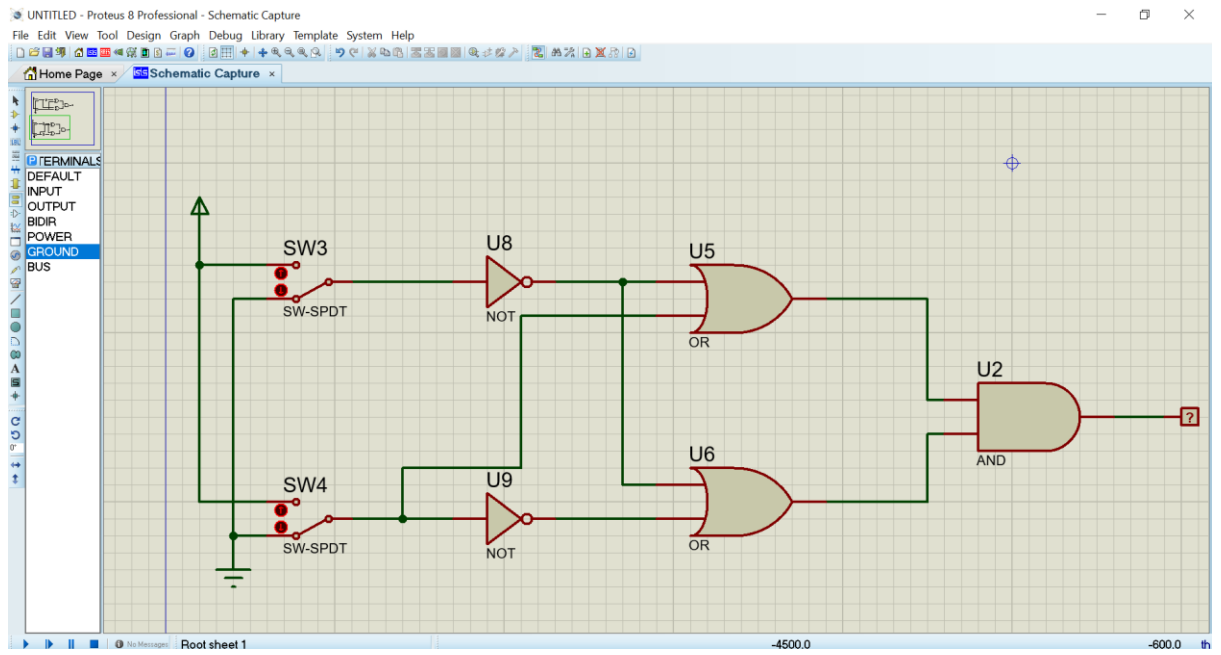
2. Fungsi Boolean :

$$F = BD' + BD$$

$$F = (B + D')(B' + D)$$

3. Buatlah gerbang logika berdasarkan fungsi Boolean!



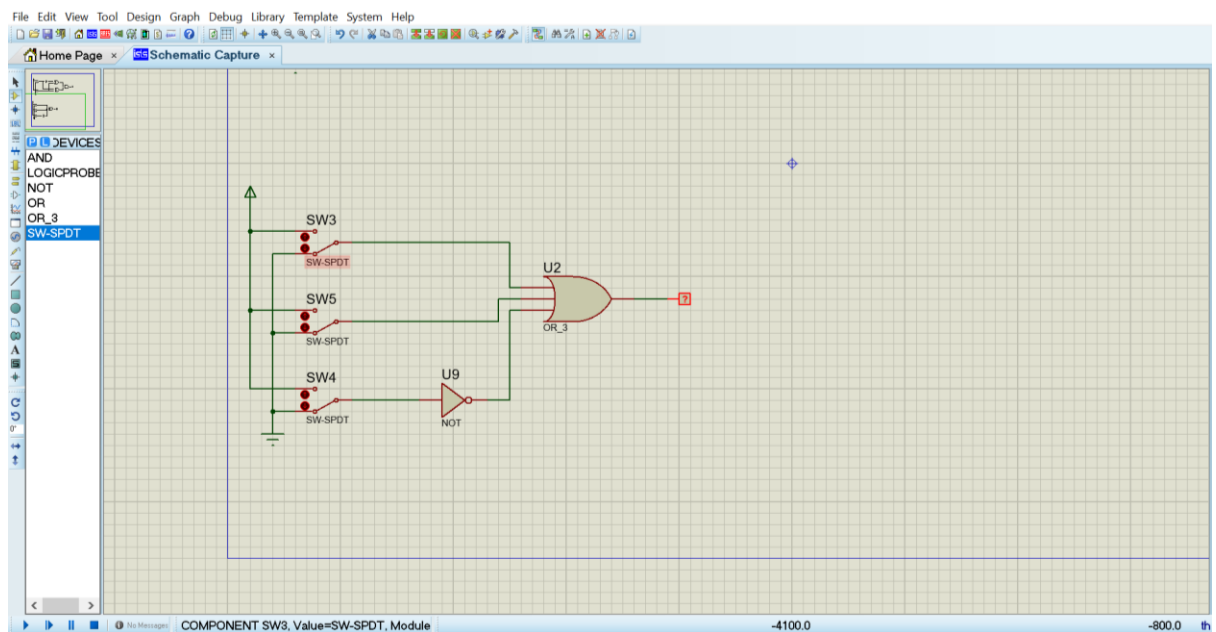


Percobaan 3

1. Fungsi Boolean : $F = XYZ + XYZ' + XY'Z + X'YZ + X'YZ' + XY'Z' + X'Y'Z'$
2. Berdasarkan fungsi Boolean, isi titik-titik dalam peta karnaugh berikut!

		XY			
		00	01	11	10
Z	0	1	1	1	1
	1	0	1	1	1

3. Sederhanakan fungsi Boolean : $F = X + Y + Z'$
4. Buatlah gerbang logika berdasarkan fungsi Boolean!

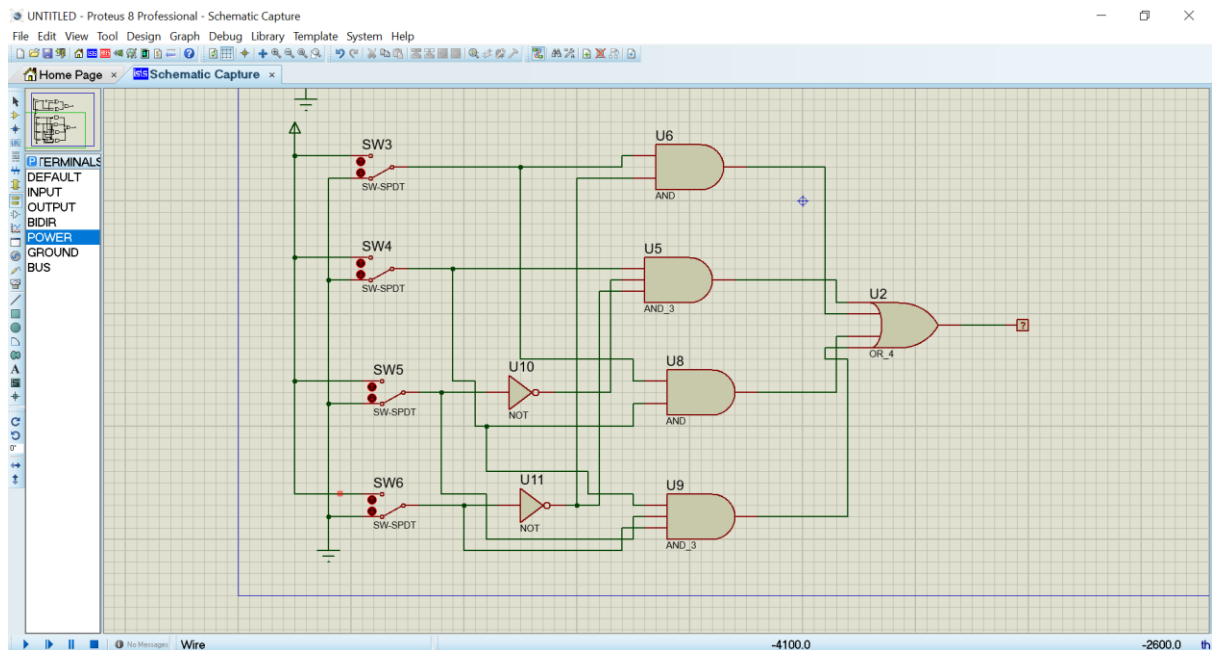


Percobaan 4

1. Fungsi Boolean : $F = AD' + ABC + ABC' + BCD + BC'D' + AB'CD'$
2. Berdasarkan fungsi Boolean, isi titik-titik dalam peta karnaugh berikut !

		AB			
		00	01	11	10
CD	00	0	1	1	1
	01	0	0	1	0
	11	0	1	1	0
	10	0	0	1	1

3. Sederhanakan fungsi Boolean : $F = BC'D' + AD' + AB + BCD$
4. Buat gerbang logika berdasarkan fungsi Boolean!



Percobaan 5

1. Tabel Fungsi Boolean :

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

2. Berdasarkan table. Isi titik-titik dalam karnaugh map berikut!

		AB			
		00	01	11	10
CD	00	1	0	1	0
	01	1	0	1	1
	11	1	1	0	0
	10	1	0	0	1

3. Fungsi Boolean sederhana : $F = A'B' + ABC' + AC'D + A'CD + B'CD'$

4. Buat gerbang logika berdasarkan fungsi Boolean !

