

**LAPORAN POSTEST**  
**LOGIKA INFORMATIKA**



**DISUSUN OLEH:**  
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**PROGRAM STUDI TEKNIK INFORMATIKA**  
**FAKULTAS TEKNOLOGI INDUSTRI**  
**UNIVERSITAS AHMAD DAHLAN**  
**DESEMBER 2021**

$$\text{Fungsi } F(A,B) = A'B + AB + A'B'$$

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	f
0	0	0	1
1	0	1	1
2	1	0	
3	1	1	1

Number of variables: 2 Type of solution: Sum of products

Karnaugh map

	0	1
0	1	1
1		1

Solve

Solution:

X = A + B  
 A  
 B

Karnaugh map solved!

$$\text{Maka fungsi mintermnya: } F(A,B) = \sum m(0,1,3)$$

$$\text{Fungsi } F(A,B) = A'B + AB + A'B'$$

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	f
0	0	0	1
1	0	1	1
2	1	0	
3	1	1	1

Number of variables: 2 Type of solution: Product of sums

Karnaugh map

	0	1
0	1 0	1 1
1	2	1 3

Solve

Solution:

X = (A+B)  
 ... (A+B)

Karnaugh map solved!

Maka fungsi maxtermnya:  $F(A,B) = \pi m 2$

$$\text{Fungsi } F(A,B,C) = A'B'C + A'B'C' + ABC + ABC'$$

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	C	f
0	0	0	0	1
1	0	0	1	1
2	0	1	0	
3	0	1	1	
4	1	0	0	
5	1	0	1	
6	1	1	0	1
7	1	1	1	1

Number of variables: 3 Type of solution: Sum of products

Karnaugh map

	00	01	11	10
0	1 0	1 1	3	2
1	4	5	1 7	1 6

Solve

Solution:

X =  $A'B + AB$

.....  $A'B$

.....  $AB$

Karnaugh map solved!

Maka fungsi mintermnya:  $F(A,B,C) = \sum m(0,1,6,7)$

$$\text{Fungsi } F(A,B,C) = A'B'C + A'B'C' + ABC + ABC'$$

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	C	f
0	0	0	0	1
1	0	0	1	1
2	0	1	0	
3	0	1	1	
4	1	0	0	
5	1	0	1	
6	1	1	0	1
7	1	1	1	1

Number of variables: 3 Type of solution: Product of sums

Karnaugh map

	00	01	11	10
0	1 0	1 1	3	2
1	4	5	1 7	1 6

Solve

Solution:

X = (A+B)(A+B)

..... (A+B)

..... (A+B)

Karnaugh map solved!

$$\text{Maka fungsi maxtermnya: } F(A,B,C) = \pi m(2,3,4,5)$$

$$\text{Fungsi } F(A,B,C,D) = A'BC'D' + A'B'C'D' + AB'CD' + AB'CD$$

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	C	D	f
0	0	0	0	0	1
1	0	0	0	1	
2	0	0	1	0	
3	0	0	1	1	
4	0	1	0	0	1
5	0	1	0	1	
6	0	1	1	0	
7	0	1	1	1	
8	1	0	0	0	
9	1	0	0	1	
10	1	0	1	0	1
11	1	0	1	1	1
12	1	1	0	0	
13	1	1	0	1	
14	1	1	1	0	
15	1	1	1	1	

Number of variables: 4 Type of solution: Sum of products

Karnaugh map

	00	01	11	10
00	1 0	1	3	2
01	1 4	5	7	6
11	12	13	15	14
10	8	9	1 11	1 10

Solve

Solution:

X = A|C|D + A|BC

... A|C|D

... A|BC

Karnaugh map solved!

$$\text{Maka fungsi mintermnya: } F(A,B,C,d) = \sum m(0,4,10,11)$$

$$\text{Fungsi } F(A,B,C,D) = A'BC'D' + A'B'C'D' + AB'CD' + AB'CD$$

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	C	D	f
0	0	0	0	0	1
1	0	0	0	1	
2	0	0	1	0	
3	0	0	1	1	
4	0	1	0	0	1
5	0	1	0	1	
6	0	1	1	0	
7	0	1	1	1	
8	1	0	0	0	
9	1	0	0	1	
10	1	0	1	0	1
11	1	0	1	1	1
12	1	1	0	0	
13	1	1	0	1	
14	1	1	1	0	
15	1	1	1	1	

Number of variables: 4 Type of solution: Product of sums

Karnaugh map

	00	01	11	10
00	1 0	1 3		2
01	1 4	5	7	6
11	12	13	15	14
10	8	9	11	10

Solve

Solution:

$$X = (C+D)(A+C)(A+B)(A+C)$$

..... (C+D)  
 ..... (A+C)  
 ..... (A+B)  
 ..... (A+C)

Karnaugh map solved!

Maka fungsi maxtermnya:  $F(A,B,C,D) = \pi m(1,2,3,5,6,7,8,9,12,13,14,15)$