

LAPORAN PRAKTIKUM
DASAR PEMROGRAMAN



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Karnaugh Map Minimizer

Program Settings

Truth table

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

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

Karnaugh map

	0	1
0	0	1
1	1	1

Solve

Solution:

$$X = A$$

$$\dots A$$

Karnaugh map solved!

Kmap SOP 2 variabel

Karnaugh Map Minimizer

Program Settings

Truth table

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

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

Karnaugh map

	0	1
0	0	1
1	1	1

Solve

Solution:

X = (A)

... (A)

Karnaugh map solved!

Kmap POS 2 variabel

Latihan:

Sederhanakan Fungsi F dibawah ini dengan peta karnaugh

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

The screenshot shows the 'Karnaugh Map Minimizer' software interface. It has a title bar with standard window controls. Below the title bar are two tabs: 'Program' and 'Settings'. The 'Program' tab is active, showing a 'Truth table' section on the left and a 'Karnaugh map' section on the right. The 'Truth table' section contains a table with columns 'A', 'B', and 'f'. The 'Karnaugh map' section contains a 2x2 grid with columns '0' and '1' and rows '0' and '1'. The 'Number of variables' is set to 2, and the 'Type of solution' is set to 'Sum of products'. A 'Solve' button is located below the Karnaugh map. The 'Solution' section shows the result: $X = A + B$. At the bottom of the window, a status bar displays the message 'Karnaugh map solved!'.

Truth table

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

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

Karnaugh map

	0	1
0	1	1
1	1	1

Solve

Solution:

$X = A + B$

Karnaugh map solved!

Maka fungsi mintermnya: $F(A,B) = \sum m(0,1,2,3)$

Latihan:

Sederhanakan Fungsi F dibawah ini dengan peta karnaugh

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

The screenshot shows a software window titled "Karnaugh Map Minimizer" with a menu bar containing "Program" and "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

Solution:

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

Solve

Karnaugh map solved!

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

Karnaugh Map Minimizer

Program Settings

Truth table

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

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

Karnaugh map

	00	01	11	10
0		1	1	1
1	1	1		

Solve

Solution:

$X = \overline{A}B + A\overline{B}$

$\overline{A}B$

$A\overline{B}$

Karnaugh map solved!

Kmap SOP 3 variabel

Karnaugh Map Minimizer

Program Settings

Truth table

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

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

Karnaugh map

	00	01	11	10
0	0	1	1	1
1	1	1	1	1

Solve

Solution:

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

$$\dots (A+B)$$

$$\dots (A+B)$$

Karnaugh map solved!

Kmap POS 3 variabel

Latihan :

Sederhanakan Fungsi F dibawah ini dengan peta karnaugh

1. Fungsi $F(A,B,C) = A'B'C + A'B'C' + ABC + ABC'$

The screenshot shows the 'Karnaugh Map Minimizer' application window. It has a 'Program' tab and a 'Settings' tab. The 'Program' tab is active, displaying a truth table and a karnaugh map.

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	1	3	2
1	4	5	1	7

Solution:

$X = A|B + AB$

$\dots A|B$

$\dots AB$

Karnaugh map solved!

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

Latihan :

Sederhanakan Fungsi F dibawah ini dengan peta karnaugh

1. 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!

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

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	C	D	f
0	0	0	0	0	
1	0	0	0	1	
2	0	0	1	0	
3	0	0	1	1	1
4	0	1	0	0	
5	0	1	0	1	
6	0	1	1	0	
7	0	1	1	1	1
8	1	0	0	0	
9	1	0	0	1	1
10	1	0	1	0	
11	1	0	1	1	
12	1	1	0	0	
13	1	1	0	1	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	0	1	1 3	2
01	4	5	1 7	6
11	12	1 13	15	14
10	8	1 9	11	10

Solve

Solution:

$X = \overline{A}CD + A\overline{C}D$

$\overline{A}CD$
 $A\overline{C}D$

Karnaugh map solved!

Kmap SOP 4 variabel

Karnaugh Map Minimizer

Program Settings

Truth table

	A	B	C	D	f
0	0	0	0	0	
1	0	0	0	1	
2	0	0	1	0	
3	0	0	1	1	1
4	0	1	0	0	
5	0	1	0	1	
6	0	1	1	0	
7	0	1	1	1	1
8	1	0	0	0	
9	1	0	0	1	1
10	1	0	1	0	
11	1	0	1	1	
12	1	1	0	0	
13	1	1	0	1	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	0	1	1	2
01	4	5	1	7
11	12	13	15	14
10	8	9	11	10

Solve

Solution:

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

..... (A+C)
 (|A+|C)
 (D)

Karnaugh map solved!

Kmap POS 4 variabel