

Практическая работа №5

Веренёв А.А. (8871)

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Вариант №16

Дана функция: $(A \wedge B \wedge \bar{C}) \vee (\bar{A} \wedge B \wedge D) \vee (\bar{C} \wedge \bar{D})$

№	A	B	C	D	F ₁	F ₂	F ₃	F	СДНФ	СКНФ
0	0	0	0	0	0	0	1	1	$A \vee B \vee C \vee D$	0
1	0	0	0	1	0	0	0	0	0	$A \vee B \vee C \vee D$
2	0	0	1	0	0	0	0	0	0	$A \vee B \vee C \vee D$
3	0	0	1	1	0	0	0	0	0	$A \vee B \vee C \vee D$
4	0	1	0	0	0	0	1	1	$A \vee B \vee C \vee D$	0
5	0	1	0	1	0	1	0	1	$A \vee B \vee C \vee D$	0
6	0	1	1	0	0	0	0	0	0	$A \vee B \vee C \vee D$
7	0	1	1	1	0	1	0	1	$A \vee B \vee C \vee D$	0
8	1	0	0	0	0	0	1	1	$A \vee B \vee C \vee D$	0
9	1	0	0	1	0	0	0	0	0	$A \vee B \vee C \vee D$
10	1	0	1	0	0	0	0	0	0	$A \vee B \vee C \vee D$
11	1	0	1	1	0	0	0	0	0	$A \vee B \vee C \vee D$
12	1	1	0	0	1	0	1	1	$A \vee B \vee C \vee D$	0
13	1	1	0	1	1	0	0	1	$A \vee B \vee C \vee D$	0
14	1	1	1	0	0	0	0	0	0	$A \vee B \vee C \vee D$
15	1	1	1	1	0	0	0	0	0	$A \vee B \vee C \vee D$

Таблица 1: Таблица истинности

Формулы:

СДНФ: $F = (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge B \wedge C \wedge D) \vee (A \wedge \bar{B} \wedge \bar{C} \wedge \bar{D}) \vee (A \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (A \wedge B \wedge \bar{C} \wedge D)$

СКНФ:

$F = (A \wedge B \wedge C \wedge \bar{D}) \vee (A \wedge B \wedge \bar{C} \wedge D) \vee (A \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (A \wedge \bar{B} \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge B \wedge C \wedge \bar{D}) \vee (\bar{A} \wedge B \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge \bar{D})$

$F = \sum_{i=0}^{15} (0, 4, 5, 7, 8, 12, 13)$

$F = \prod_{i=0}^{15} (0, 1, 4, 5, 6, 9, 12, 13, 14)$

Карты карно

CKHΦ:

The diagram shows a 4x4 grid of cells. To the left of the grid are two vertical lines labeled A and B . Above the grid are two horizontal lines labeled D and C . The grid contains the following values:

1	0	0	0
1	1	1	0
1	1	0	0
1	0	0	0

CKHΦ:

	0	1	1	1
	0	0	0	1
	0	0	1	1
	0	1	1	1