Практическая работа №5

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Вариант 16 Дана функция(ДНФ): $(A \wedge B \wedge \bar{C}) \vee (\bar{A} \wedge B \wedge D) \vee (\bar{C} \wedge \bar{D})$

$N_{\overline{0}}$	A	В	\sim	D	F_1	F_2	F_3	F	СДНФ	СКНФ
0	0	0	0	0	0	0	1	1	$A \lor B \lor C \lor D$	0
1	0	0	0	1	0	0	0	0	0	$A \lor B \lor C \lor \bar{D}$
2	0	0	1	0	0	0	0	0	0	$A \lor B \lor \bar{C} \lor D$
3	0	0	1	1	0	0	0	0	0	$A \lor \bar{B} \lor \bar{C} \lor \bar{D}$
4	0	1	0	0	0	0	1	1	$A \lor \bar{B} \lor C \lor D$	0
5	0	1	0	1	0	1	0	1	$A \lor \bar{B} \lor C \lor \bar{D}$	0
6	0	1	1	0	0	0	0	0	0	$A \lor \bar{B} \lor \bar{C} \lor D$
7	0	1	1	1	0	1	0	1	$A \lor \bar{B} \lor \bar{C} \lor \bar{D}$	0
8	1	0	0	0	0	0	1	1	$\bar{A} \lor B \lor C \lor D$	0
9	1	0	0	1	0	0	0	0	0	$ \bar{A} \lor B \lor C \lor \bar{D} $
10	1	0	1	0	0	0	0	0	0	$ \bar{A} \vee B \vee \bar{C} \vee D $
11	1	0	1	1	0	0	0	0	0	$ \bar{A} \lor B \lor \bar{C} \lor \bar{D} $
12	1	1	0	0	1	0	1	1	$\bar{A} \lor \bar{B} \lor C \lor D$	0
13	1	1	0	1	1	0	0	1	$\bar{A} \lor \bar{B} \lor \bar{C} \lor D$	0
14	1	1	1	0	0	0	0	0	0	$ \bar{A} \lor \bar{B} \lor \bar{C} \lor D $
15	1	1	1	1	0	0	0	0	0	$ \bar{A} \lor \bar{B} \lor \bar{C} \lor \bar{D} $

Таблица 1: Таблица истинности

Формулы:

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

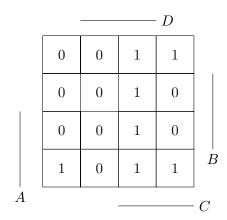
$$\begin{split} \mathbf{F} &= (\mathbf{A} \wedge B \wedge C \wedge \bar{D}) \vee (A \wedge B \wedge \bar{C} \wedge D) \vee (A \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (A \wedge \bar{B} \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge B \wedge C \wedge \bar{D}) \vee (\bar{A} \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{C} \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{C} \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{C} \wedge \bar{C} \wedge \bar{C}) \wedge \bar{C} \wedge \bar{C})$$

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

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

Карты Карно

Для СДНФ:



Для СКНФ:

