Практическая работа №5

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Вариант №16
Дана функция: $(\text{A} \wedge B \wedge \bar{C}) \vee (\bar{A} \wedge B \wedge D) \vee (\bar{C} \wedge \bar{D})$

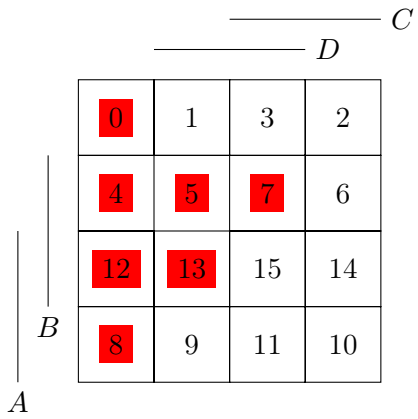
№	A	B	C	D	F_1	F_2	F_3	F	СДНФ	СКНФ
0	0	0	0	0	0	0	1	1	1	0
1	0	0	0	1	0	0	0	0	0	1
2	0	0	1	0	0	0	0	0	0	1
3	0	0	1	1	0	0	0	0	0	1
4	0	1	0	0	0	0	1	1	1	0
5	0	1	0	1	0	1	0	1	1	0
6	0	1	1	0	0	0	0	0	0	1
7	0	1	1	1	0	1	0	1	1	0
8	1	0	0	0	0	0	1	1	1	0
9	1	0	0	1	0	0	0	0	0	1
10	1	0	1	0	0	0	0	0	0	1
11	1	0	1	1	0	0	0	0	0	1
12	1	1	0	0	1	0	1	1	1	0
13	1	1	0	1	1	0	0	1	1	0
14	1	1	1	0	0	0	0	0	0	1
15	1	1	1	1	0	0	0	0	0	1

Таблица 1: Таблица истинности

Формулы:
СДНФ: $\text{F}=(\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge B \wedge C \wedge D) \vee (A \wedge \bar{B} \wedge \bar{C} \wedge \bar{D}) \vee (A \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (A \wedge B \wedge \bar{C} \wedge D)$
СКНФ:
$\text{F}=(\text{A} \wedge B \wedge C \wedge \bar{D}) \vee (A \wedge B \wedge \bar{C} \wedge D) \vee (A \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (A \wedge \bar{B} \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge B \wedge C \wedge \bar{D}) \vee (\bar{A} \wedge B \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge B \wedge \bar{C} \wedge \bar{D}) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge D) \vee (\bar{A} \wedge \bar{B} \wedge \bar{C} \wedge \bar{D})$
$\text{F}=\sum_{0}^{15}(0, 4, 5, 7, 8, 12, 13)$
$\text{F}=\prod_{0}^{15}(0, 1, 4, 5, 6, 9, 12, 13, 14)$

Карты карно

СДНФ:



СКНФ: