Курсовая Работа 2 часть

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Группа: P3110

Вариант 56

a_1	a_2	a_3	b_1	b_2	C_1	c_2	c_3	c_4	v
0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	1	0
0	0	0	1	0	0	0	1	0	0
0	0	0	1	1	0	0	1	1	0
0	0	1	0	0	0	0	0	1	0
0	0	1	0	1	0	0	1	0	0
0	0	1	1	0	0	0	1	1	0
0	0	1	1	1	0	1	0	0	0
0	1	0	0	0	0	0	1	0	0
0	1	0	0	1	0	0	1	1	0
0	1	0	1	0	0	1	0	0	0
0	1	0	1	1	0	1	0	1	0
0	1	1	0	0	0	0	1	1	0
0	1	1	0	1	0	1	0	0	0
0	1	1	1	0	0	1	0	1	0
0	1	1	1	1	0	1	1	0	0
1	0	0	0	0	0	1	0	0	0
1	0	0	0	1	0	1	0	1	0
1	0	0	1	0	0	1	1	0	0
1	0	0	1	1	0	1	1	1	0
1	0	1	0	0	0	1	0	1	0
1	0	1	0	1	0	1	1	0	0
1	0	1	1	0	0	1	1	1	0
1	0	1	1	1	1	0	0	0	0
1	1	0	0	0	0	1	1	0	0
1	1	0	0	1	0	1	1	1	0
1	1	0	1	0	1	0	0	0	0
1	1	0	1	1	0	0	0	0	1

1	1	1	0	0	d	d	d	d	d
1	1	1	0	1	d	d	d	d	d
1	1	1	1	0	d	d	d	d	d
1	1	1	1	1	d	d	d	d	d

$C=(A_{mod7}+B)_{mod9}$

Число входных/выходных переменных: 5/5 Разрядность операндов: 3/2

c_1

$a_1=0$	a_2a_3			
b_1b_2	00	01	11	10
00				
01				
11				
10				

$a_1=1$	a_2a_3			
b_1b_2	00	01	11	10
00			d	
01			d	
11		1	d	
10			d	1

c_2

$a_1=0$	a_2a_3			
b_1b_2	00	01	11	10
00				
01			1	
11		1	1	1
10			1	1

$a_1=1$	a_2a_3			
b_1b_2	00	01	11	10
00	1	1	d	1
01	1	1	d	1
11	1		d	
10	1	1	d	

c_3

$a_1=0$	a_2a_3			
b_1b_2	00	01	11	10
00			1	1
01		1		1
11	1		1	
10	1	1		

$a_1=1$	a_2a_3			
b_1b_2	00	01	11	10
00			d	1
01		1	d	1
11	1		d	
10	1	1	d	

c_4

a_1=0	a_2a_3				
b_1b_2		00	01	11	10
	00		1	1	
	01	1			1
	11	1			1
	10		1	1	

a_1=1	a_2a_3				
b_1b_2		00	01	11	10
	00		1	d	
	01	1		d	1
	11	1		d	
	10		1	d	

V

a_1=0	a_2a_3				
b_1b_2		00	01	11	10
	00				
	01				
	11				
	10				

a_1=1	a_2a_3				
b_1b_2		00	01	11	10
	00			d	
	01			d	
	11			d	1
	10			d	

$$\begin{cases} C1 = \ a1a3b1b2 \vee a1a2b1\overline{b2}\ (Sq = 10) \\ C2 = \ \overline{a1}a3b1b2 \vee \overline{a1}a2b1 \vee a2a3b2 \vee a1\overline{a2a3} \vee a1a3\overline{b2} \vee a1\overline{b1}(Sq = 24) \\ C3 = \ \overline{a2a3}b1 \vee \overline{a2}b1\overline{b2} \vee a2\overline{a3b1} \vee a2\overline{b1b2} \vee \overline{a2}a3\overline{b1}b2 \vee a2a3b1b2(Sq = 26) \\ C4 = a3\overline{b2} \vee \overline{a1a3}b2 \vee \overline{a2a3}b2 \vee a1a2\overline{b1}b2(Sq = 16) \\ V = \ a1a2b1b2\ (Sq = 4) \end{cases}$$

$S_q = 80$

$$\begin{cases} C1 = \ a1\varphi_1 \vee \varphi_2\overline{b2}\ (Sq = 6) \\ C2 = \ \overline{a1}\varphi_1 \vee \overline{a1}a2b1 \vee a2a3b2 \vee a1(\overline{a2a3} \vee a3\overline{b2} \vee \overline{b1})(Sq = 21) \\ C3 = (\overline{a2}b1 \vee a2\overline{b1})(\overline{b2} \vee \overline{a3}) \vee \overline{a2}a3\overline{b1}b2 \vee a2\varphi_1(Sq = 19) \\ C4 = a3\overline{b2} \vee \overline{a3}b2\ (\overline{a1} \vee \overline{a2}) \vee a1a2\overline{b1}b2(Sq = 14) \\ V = \ \varphi_2 b2\ (Sq = 2) \\ \varphi_1 = a3b1b2(Sq = 3) \\ \varphi_2 = a1a2b1(Sq = 3) \end{cases}$$

$S_q = 67$

$T_{C1}=2\tau$, $T_{C2}=3\tau$, $T_{C3}=3\tau$, $T_{C4}=2\tau$, $T_V=1\tau$, $T= \max (T_{C1}, T_{C2}, T_{C3}, T_{C4}, T_V)= 3\tau$.

Проверка на наборах: f(11001) = 01110

f(11011) = 00001