

АиЛОВТ Д/З

Полховский Артём. Гр 950503

Задание 1.

F1	F2	F3	F4	F
0	0	0	0	0
0	0	0	1	1
0	0	1	0	1
0	0	1	1	0
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	1
1	0	0	0	1
1	0	0	1	0
1	0	1	0	1
1	0	1	1	0
1	1	0	0	0
1	1	0	1	1
1	1	1	0	0
1	1	1	1	1

$$\mathbf{k0} = \begin{pmatrix} 0001 \\ 0010 \\ 0111 \\ 1000 \\ 1010 \\ 1101 \\ 1111 \end{pmatrix} \quad \mathbf{k1} = \begin{pmatrix} -010 \\ -111 \\ 11-1 \end{pmatrix}$$

Задание 2.

1) ЗИ

x1	x2	x3	f
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

$$K_0 = \begin{bmatrix} 1 & 1 & 1 \end{bmatrix}$$

2) ЗИ-НЕ

x1	x2	x3	f
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

$$k_0 = \begin{bmatrix} 000 \\ 001 \\ 010 \\ 011 \\ 100 \\ 101 \\ 110 \end{bmatrix} \quad k_1 = \begin{bmatrix} 00- \\ 0-0 \\ -00 \\ 0-1 \\ -01 \\ 01- \\ -10 \\ 10- \end{bmatrix} \quad k_2 = \begin{bmatrix} 0-- \\ -0- \\ --0 \\ 0-1 \end{bmatrix}$$

3) ИЛИ-НЕ:

x1	x2	x3	f
0	0	0	1
0	0	1	0
0	1	0	0

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

$$\mathbf{K0}=\begin{pmatrix}000\end{pmatrix}$$

4) 2XOR:

x1	x2	f
0	0	1
0	1	0
1	0	0
1	1	1

$$\mathbf{K0}=\begin{pmatrix}00\\11\end{pmatrix}$$

Задание 3.

a)

$\begin{array}{r} * \begin{array}{cccc} x & 0 & x & 10 \\ 0 & x & 1 & 11 \\ \hline 00 & 1 & 1 & y \end{array} \end{array}$	$\begin{array}{r} \# \begin{array}{cccc} 0 & 1 & x & 1x \\ x & x & 0 & x1 \\ \hline z & z & 1 & z0 \end{array} \end{array}$	$\begin{array}{r} \cap \begin{array}{cccc} x & 1 & x & 0x \\ x & x & 1 & x1 \\ \hline x & 1 & 1 & 01 \end{array} \end{array}$
--	---	---

б)

$\begin{array}{r} * \begin{array}{cccc} x & 0 & x & 10 \\ 0 & x & 1 & 0x \\ \hline 00 & 1 & y & 0 \end{array} \end{array}$	$\begin{array}{r} \# \begin{array}{cccc} x & 1 & x & 1x \\ x & 1 & 1 & 10 \\ \hline z & z & 0 & z1 \end{array} \end{array}$	$\begin{array}{r} \cap \begin{array}{cccc} x & 0 & x & 01 \\ 1 & x & 1 & x1 \\ \hline 10 & 1 & 0 & 1 \end{array} \end{array}$
--	---	---

в)

$\begin{array}{r} * \begin{array}{cccc} 1 & 0 & x & 00 \\ 0 & x & 1 & 1x \\ \hline y & 0 & 1 & y0 \end{array} \end{array}$	$\begin{array}{r} \# \begin{array}{cccc} x & 1 & x & 1x \\ 0 & x & 0 & 1x \\ \hline 1z & 1 & z & z \end{array} \end{array}$	$\begin{array}{r} \cap \begin{array}{cccc} x & 1 & x & 00 \\ 1 & 1 & 0 & x1 \\ \hline 1 & 1 & 0 & 0z \end{array} \end{array}$
--	---	---

г)

$\begin{array}{r} * \begin{array}{cccc} x & 0 & x & 10 \\ 0 & x & 1 & 0x \\ \hline 00 & 1 & y & 0 \end{array} \end{array}$	$\begin{array}{r} \# \begin{array}{cccc} x & 1 & x & 1x \\ x & x & 0 & 11 \\ \hline z & z & 1 & z0 \end{array} \end{array}$	$\begin{array}{r} \cap \begin{array}{cccc} x & 1 & x & 0x \\ 1 & x & 0 & x1 \\ \hline 1 & 1 & 0 & 01 \end{array} \end{array}$
--	---	---