Rechenanlagen Übungsblatt 10

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Übung: Dienstag 14:00

Aufgabe 10.1

	a_0	a_1	a_2	a_3	l_0	l_1	l_2	l_3	h_0	h_1	h_2
a)	0	0	0	0	0	0	0	1	0	1	0
	0	0	0	1	1	0	0	0	1	0	0
	0	0	1	0	1	0	0	0	0	0	0
	0	0	1	1	1	0	0	0	0	0	1
	0	1	0	0	0	1	0	0	1	0	0
	0	1	0	1	0	1	0	0	0	1	0
	0	1	1	0	0	1	0	0	0	0	1
	0	1	1	1	0	0	1	0	1	0	0
	1	0	0	0	0	0	1	0	0	1	0
	1	0	0	1	0	0	1	0	0	0	1
	1	0	1	0	0	0	0	1	1	0	0
	1	0	1	1	0	0	0	1	0	0	1

 $l_0 = \overline{a_0 a_1 a_2} a_3 \vee \overline{a_0 a_1} a_2 \overline{a_3} \vee \overline{a_0 a_1} a_2 a_3$

 $l_1 = \bar{a_0}a_1\overline{a_2}\overline{a_3} \vee \bar{a_0}a_1\bar{a_2}a_3 \vee \bar{a_0}a_1a_2\bar{a_3}$

 $l_2 = \bar{a_0}a_1a_2a_3 \vee a_0\overline{a_1a_2a_3} \vee a_0\overline{a_1a_2}a_3$

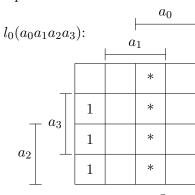
 $l_3 = \overline{a_0 a_1 a_2 a_3} \vee a_0 \overline{a_1} a_2 \overline{a_3} \vee a_0 \overline{a_1} a_2 a_3$

 $h_0 = \overline{a_0 1_1 a_2} a_3 \vee \overline{a_0} a_1 \overline{a_2 a_3} \vee \overline{a_0} a_1 a_2 a_3 \vee a_0 \overline{a_1} a_2 \overline{a_3}$

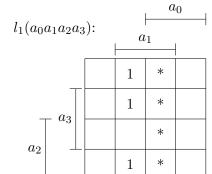
 $h_1 = \overline{a_0 a_1 a_2 a_3} \vee \overline{a_0 a_1} a_2 \overline{a_3} \vee \overline{a_0} a_1 \overline{a_2} \overline{a_3} \vee a_0 \overline{a_1 a_2 a_3}$

 $h_2 = \overline{a_0 a_1} a_2 a_3 \vee \overline{a_0} a_1 a_2 \overline{a_3} \vee a_0 \overline{a_1 a_2} a_3 \vee a_0 \overline{a_1} a_2 a_3$

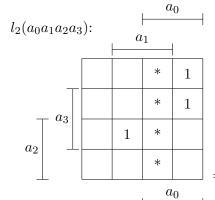
b) Die Belegungen für $a_0a_1=1$ sind redundant, da diese keine Tasten repräsentieren.



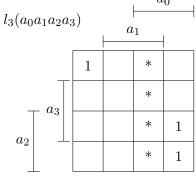
$$\Rightarrow l_0 = \overline{a_0 a_1} a_2 \vee \overline{a_0 a_1 a_2} a_3$$



$$\Rightarrow l_1 = a_1 \bar{a_2} \vee a_1 a_2 \bar{a_3}$$



$$\Rightarrow l_2 = a_0 \bar{a_2} \vee a_1 a_2 a_3$$



$$\Rightarrow l_3 = a_0 a_2 \vee \overline{a_0 a_1 a_2 a_3}$$

