

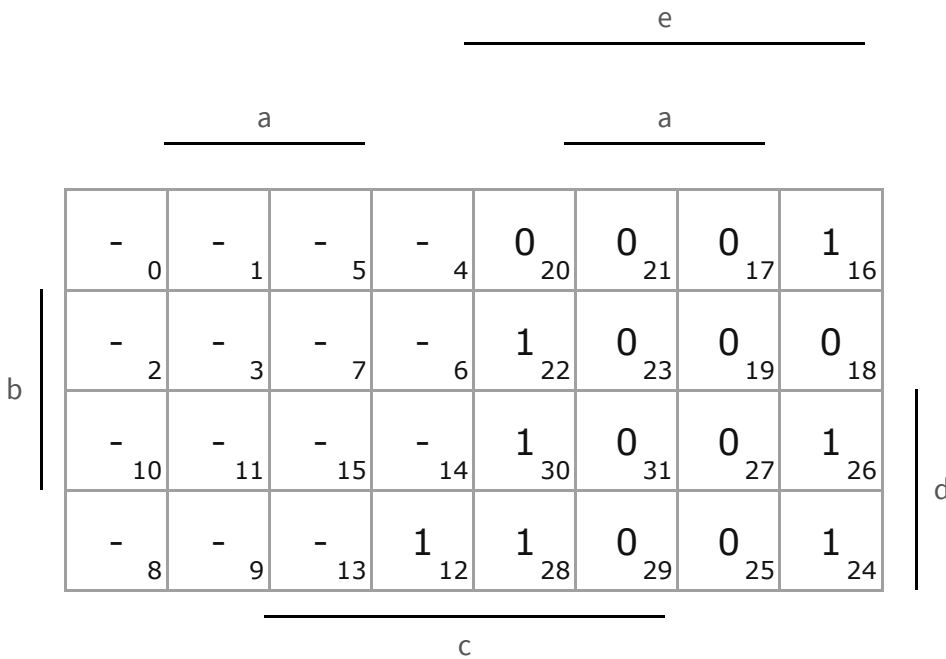
GTI - Übung



🏠 > Symmetriediagramm

Symmetriediagramm

Anzahl Variablen: OK



DNF: $\bar{a}\bar{b}\bar{c}\bar{d}\bar{e} + \bar{a}\bar{b}\bar{c}\bar{d}e + \bar{a}\bar{b}\bar{c}d\bar{e} + \bar{a}\bar{b}\bar{c}de + \bar{a}\bar{b}c\bar{d}\bar{e} + \bar{a}\bar{b}cde + \bar{a}\bar{b}c\bar{d}e$

KNF: $(a + b + \bar{c} + d + \bar{e}) \cdot (\bar{a} + b + \bar{c} + d + \bar{e}) \cdot (\bar{a} + b + c + d + \bar{e}) \cdot (\bar{a} + \bar{b} + \bar{c} + d + \bar{e}) \cdot (\bar{a} + \bar{b} + c + d + \bar{e}) \cdot (a + \bar{b} + c + d + \bar{e}) \cdot (\bar{a} + \bar{b} + \bar{c} + \bar{d} + \bar{e}) \cdot (\bar{a} + \bar{b} + c + \bar{d} + \bar{e}) \cdot (\bar{a} + b + \bar{c} + \bar{d} + \bar{e}) \cdot (\bar{a} + b + c + \bar{d} + \bar{e})$

Primimplikanten: $\bar{e}, \bar{a}\bar{d}, \bar{a}\bar{b}\bar{c}, \bar{a}\bar{b}\bar{c}$

Primimplikate: $\bar{a}, b + \bar{c} + d, \bar{b} + c + d$

Terme können durch Klicken fixiert werden, so dass keine anderen Terme mehr gezeigt werden. Ein erneutes Klicken revertiert diese Fixierung.

DMF: $\bar{a}\bar{d} + \bar{a}\bar{b}\bar{c} + \bar{a}\bar{b}\bar{c}$

KMF: $(\bar{a}) \cdot (b + \bar{c} + d) \cdot (\bar{b} + c + d)$

Überdeckungstabelle der Primimplikanten:

Primimplikant	abcde	abcde	abcde	abcde	abcde	abcde	abcde	P _i
\bar{e}					X			A

Primimplikant	abcde	abcde	abcde	abcde	abcde	abcde	abcde	P _i B
$\overline{a}d$			X	X				
$\overline{a}bc$	X						X	C
$\overline{a}bc$		X	X					D

Quine-McCluskey:

$$Q_{5,5} = \{\overline{a}bcde\}$$

$$Q_{5,4} = \{\overline{a}bcde, abcde, \overline{a}bcde, abcde, abcde, abcde\}$$

$$Q_{5,3} = \{\overline{a}bcde, abcde, \overline{a}bcde, abcde, abcde, abcde, abcde, abcde\}$$

$$Q_{5,2} = \{\overline{a}bcde, abcde, \overline{a}bcde, abcde, abcde, abcde, abcde\}$$

$$Q_{5,1} = \{\overline{a}bcde, abcde\}$$

$$Q_{5,0} = \{\}$$

$$Q_{4,4} = \{\overline{a}bcd, bcde, abde, acde, abce\}$$

$$Q_{4,3} = \{\overline{a}bcde, abcde, \overline{a}bcde, abcde, abcde, bcde, acde, bcde, acde, abde, abce, acde, abce, bcde\}$$

$$Q_{4,2} = \{\overline{a}bcd, acde, \overline{a}bcd, \overline{a}bcd, abde, acde, abde, bcde, abce, bcde, acde, acde, abce, abde, bcde, abce, abde\}$$

$$Q_{4,1} = \{\overline{a}bcde, abcde, \overline{a}bcde, abcde, abcde, abde, bcde, acde\}$$

$$Q_{4,0} = \{\}$$

$$Q_{3,3} = \{\overline{a}bc, abc, bde, cde, ade, ace, bce\}$$

$$Q_{3,2} = \{\overline{a}acd, abd, ade, cde, bde, bce, ace, cde, ace, ade, abe, bce, bde, abe\}$$

$$Q_{3,1} = \{\overline{a}bc, ade, abd, acd, abe, bce, ace, bde, ade, cde\}$$

$$Q_{3,0} = \{\}$$

$$Q_{2,2} = \{\overline{d}e, ce, ae, be\}$$

$$Q_{2,1} = \{\overline{a}d, be, ae, ce, de\}$$

$$Q_{2,0} = \{\}$$

$$Q_{1,1} = \{\overline{e}\}$$

$$Q_{1,0} = \{\}$$

$$Q_{0,0} = \{\}$$

Petrick-Ausdruck:

$$PA: (C) \cdot (D) \cdot (B + D) \cdot (B) \cdot (A + B) \cdot (B) \cdot (B + C) = 1 \mid \text{Absorption + Idempotenz}$$

$$PA: (C) \cdot (D) \cdot (B) = 1 \mid \text{Ausdistribuierten}$$

$$PA: CDB = 1 \mid \text{Absorption + Idempotenz + Sortierung}$$

$$PA: BCD = 1$$

Viel Spaß im Modul GTI, der Übung und viel Erfolg in der Klausur!

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