

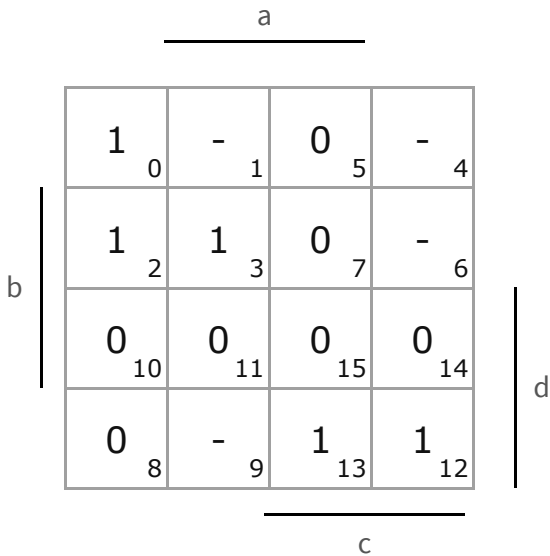
GTI - Übung



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Symmetriediagramm

Anzahl Variablen: OK



DNF: $\bar{a}\bar{b}\bar{c}\bar{d} + \bar{a}b\bar{c}\bar{d} + a\bar{b}\bar{c}\bar{d} + a\bar{b}c\bar{d} + a\bar{b}cd$

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

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

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

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

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

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

Überdeckungstabelle der Primimplikanten:

Primimplikant	abcd	abcd	abcd	abcd	abcd	P _i
$\bar{c}\bar{d}$	X	X	X			A
$\bar{a}\bar{d}$	X	X				B
$\bar{a}\bar{b}c$					X	C
$a\bar{b}c$						D



Primimplikant	abcd	abcd	abcd	abcd	abcd	P _i
$\bar{b}cd$				X	X	E
$a\bar{b}d$				X		F

Quine-McCluskey:

$$Q_{4,4} = \{\bar{a}\bar{b}\bar{c}\bar{d}\}$$

$$Q_{4,3} = \{\bar{a}\bar{b}c\bar{d}, \bar{a}b\bar{c}\bar{d}, \bar{a}\bar{b}c\bar{d}\}$$

$$Q_{4,2} = \{\bar{a}b\bar{c}d, \bar{a}\bar{b}c\bar{d}, \bar{a}b\bar{c}\bar{d}, \bar{a}\bar{b}c\bar{d}\}$$

$$Q_{4,1} = \{\bar{a}\bar{b}cd\}$$

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

$$Q_{3,3} = \{a\bar{c}d, b\bar{c}d, a\bar{b}d\}$$

$$Q_{3,2} = \{b\bar{c}d, a\bar{c}d, \bar{a}b\bar{c}, \bar{a}b\bar{d}, \bar{a}c\bar{d}, \bar{a}b\bar{c}\}$$

$$Q_{3,1} = \{\bar{b}cd, a\bar{b}d\}$$

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

$$Q_{2,2} = \{\bar{c}d, \bar{a}d\}$$

$$Q_{2,1} = \{\}$$

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

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

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

Petrick-Ausdruck:

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

$$PA: (A) \cdot (E + F) \cdot (C + E) = 1 \mid \text{Ausdistribuiieren}$$

$$PA: AEC + AEE + AFC + AFE = 1 \mid \text{Absorption + Idempotenz + Sortierung}$$

$$PA: AE + ACF = 1$$

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

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