

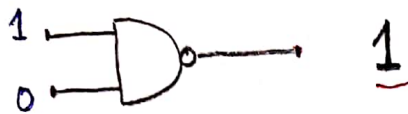
①

BIL - 206

MANTIKSAL TASARIM

15.04.2021

VE DEĞİL

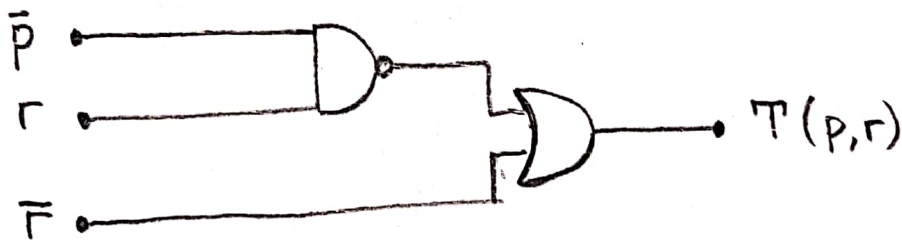


VEYA.



②

$$T(p, r) = \overline{p}r + \overline{r}$$



③

$$(a+b)c\overline{d} + de + \overline{a}de$$

 \overline{a}

$$(a+\overline{b}+c+d)(f+g+\overline{d}+a+e)(c+\overline{d})$$

$$a\overline{b}\overline{c}\overline{d}e$$

$$a\overline{b} + b\overline{c}\overline{d}e$$

$$\overline{a} + b + \overline{c} + \overline{d}$$

$$a\overline{b}\overline{c}\overline{d}e$$

$$(a+\overline{b})(d+\overline{e}+f'+\overline{c})$$

$$a\overline{b} + b + \overline{c}\overline{d}\overline{e}\overline{f}$$

$$\overline{a} + b\overline{c}\overline{d}\overline{e} + g\overline{f}\overline{h}\overline{e}\overline{a}\overline{d}$$

$$c(f+\overline{a}+b+\overline{g}+\overline{d})$$

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BIL-206 Mantıksal Tasarım

15.04.2021

$$F(a, b, c, d) = \sum m(0, 1, 2, 4, 5, 6, 7, 8, 9, 10)$$

a	b	c	d	F	m
0	0	0	0	1	m_0
0	0	0	1	1	m_1
0	0	1	0	1	m_2
0	0	1	1	0	m_3
0	1	0	0	1	m_4
0	1	0	1	1	m_5
0	1	1	0	1	m_6
0	1	1	1	1	m_7
1	0	0	0	1	m_8
1	0	0	1	1	m_9
1	0	1	0	1	m_{10}
1	0	1	1	0	m_{11}
1	1	0	0	0	m_{12}
1	1	0	1	0	m_{13}
1	1	1	0	0	m_{14}
1	1	1	1	0	m_{15}

$$F = \bar{a}\bar{b}\bar{c}\bar{d} + \bar{a}\bar{b}\bar{c}d + \bar{a}\bar{b}cd + \bar{a}b\bar{c}\bar{d} + \bar{a}b\bar{c}d + \bar{a}bcd + a\bar{b}\bar{c}\bar{d} + a\bar{b}\bar{c}d + a\bar{b}cd + ab\bar{c}\bar{d} + ab\bar{c}d + abcd$$

$$M_3 + a\bar{b}\bar{c}d + a\bar{b}cd =$$

$$= \bar{a}\bar{b}\bar{c}(\bar{d} + d) + \bar{a}\bar{b}cd + \bar{a}b\bar{c}\bar{d} + \bar{a}b\bar{c}d + \bar{a}bcd + a\bar{b}\bar{c}\bar{d} + a\bar{b}\bar{c}d + a\bar{b}cd + ab\bar{c}\bar{d} + ab\bar{c}d + abcd$$

$$= \bar{a}\bar{b}\bar{c} + \bar{a}\bar{b}cd + \bar{a}b\bar{c}\bar{d} + \bar{a}b\bar{c}d + \bar{a}bcd + a\bar{b}\bar{c}\bar{d} + a\bar{b}\bar{c}d + a\bar{b}cd + ab\bar{c}\bar{d} + ab\bar{c}d + abcd$$

$$M_{11}^+ + \bar{a}bcd + a\bar{b}\bar{c}\bar{d} + a\bar{b}\bar{c}d + a\bar{b}cd + ab\bar{c}\bar{d}$$

Veya değil (NOR) kapısı ile tasarlamak.

Mesela: $\bar{\bar{F}} = \bar{\bar{ABC}} = \bar{A+B+C}$

Demek devremizi bu şekilde Veya değil kapısını kullanarak tasarlayacağız!

③

$$\bar{F} = \Sigma (M_3, M_{11}, M_{12}, M_{13}, M_{14}, M_{15})$$

