

$$F_2 = x' y' z + x' y z + x y'$$

$$F_2 = \underbrace{x' z}_{\text{}} \overbrace{(y' + y)}^1 + \underbrace{x y'}_{\text{}}$$

Bool Fonksiyonları - Tinkerer

$$F \rightarrow F'$$

$$F_1 = x(x' + y) = 0 + xy$$

$$F_1' = x' + y'$$

$$F_2 = x + x'y \quad \leftarrow \quad \underbrace{x + xy + \underbrace{x'x}_0 + x'y}$$

$$(x + x') \cdot (x + y) = \underline{x + y}$$

$$F_2^{(1)} = x' \cdot y' \quad \leftarrow \quad \underbrace{(x) + xy + x'y}_{y(x' + x)}$$

$$F_3 = (x+y)(x+y')$$

$$F_3 = x + xy' + yx$$

$$\approx x$$

$$F_3' = x'$$

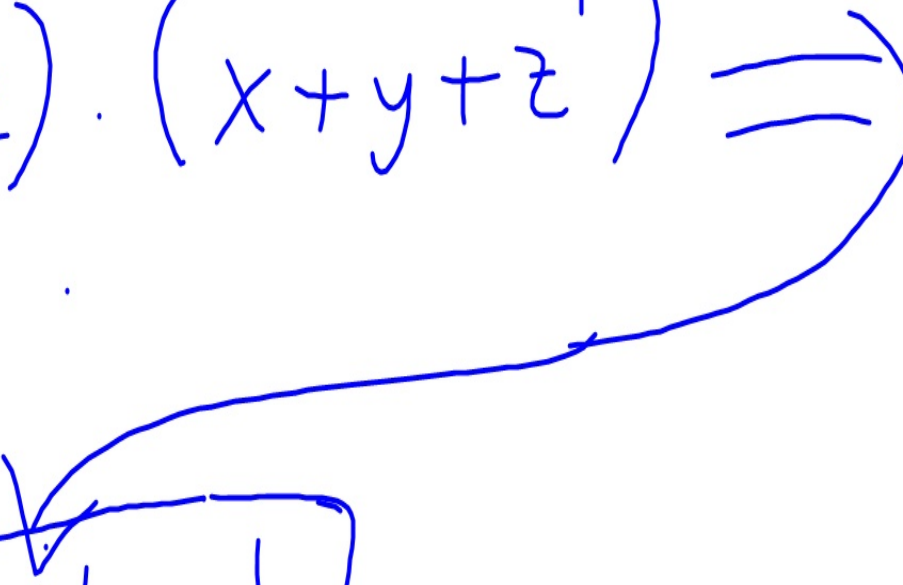
$$F_4 = (xy + x'z)' \quad \leftarrow \quad F_4 = (xy + x'z)$$

$$\begin{aligned}
 F_4' &= (x' + y')(x + z') \\
 &= \underline{0 + x'z' + y'x + y'z'}
 \end{aligned}$$

$$xy + xz' + yz$$

$$F_1 = x'yz' + x'y'z$$

$$F_1' = (x + y' + z) \cdot (x + y + z') \Rightarrow$$


$$x + y' + z'$$

$$\widehat{F_2} = x.(y'z' + yz)$$

$$F_2' = x' + (y+z).(y' + z')$$

Maxterm - Minterm

X	y	z	Minterm		Maxterm	
0	0	0	$x' \cdot y' \cdot z'$	m_0	$x + y + z$	M_0
0	0	1	$x' \cdot y' \cdot z$	m_1	$x + y + z'$	M_1
0	1	0	$x' \cdot y \cdot z'$	m_2	$x + y' + z$	M_2
0	1	1	$x' \cdot y \cdot z$	m_3	$x + y' + z'$	M_3
1	0	0	$x \cdot y' \cdot z'$	m_4	$x' + y + z$	M_4

x	y	z	Minterm		Maxterm	
1	0	1	$x \cdot y \cdot z$	m_5	$x' + y + z'$	M_5
1	1	0	$x \cdot y \cdot z'$	m_6	$x' + y' + z$	M_6
1	1	1	$x \cdot y \cdot z$	m_7	$x' + y' + z'$	M_7

3 değişken için fonksiyon

x	y	z	f ₁	f ₂
0	0	0	0	0
0	0	1	1 - m ₁	0
0	1	0	0	0
0	1	1	0	1 - m ₃
1	0	0	1 - m ₄	0
1	0	1	0	1 - m ₅
1	1	0	0	1 - m ₆
1	1	1	1 - m ₇	1 - m ₇

Sum of minterm

$$f_1 = x'y'z + xy'z' + xyz$$

$$f_1 = m_1 + m_4 + m_7$$

$$f_2 = x'yz + xy'z + x.y.z' + x.y.z$$

$$f_2 = m_3 + m_5 + m_6 + m_7$$

$$\underline{f_1 = m_1 + m_4 + m_7 = x' \cdot y' \cdot z + x \cdot y' \cdot z' + x \cdot y \cdot z}$$

$$\rightarrow \underline{f_1' = x' \cdot y' \cdot z' + x' \cdot y \cdot z' + x' \cdot y \cdot z + x \cdot y' \cdot z + x \cdot y \cdot z'}$$

$$\rightarrow f_1 = (x + y + z) \cdot (x + y' + z) \cdot (x + y' + z')$$

$$(x' + y + z') \cdot (x' + y' + z)$$

$$f_1 = M_0 \cdot M_2 \cdot M_3 \cdot M_5 \cdot M_6$$

product of maxterms

$$F_1 = A + BC + AC \rightarrow \frac{\text{sum of minterms}}{\text{gates?}}$$

$$\begin{aligned} F_1 &= A(B+B') + BC(A+A') + AC(B+B') \\ &= AB + AB' + ABC + A'BC + ACB + ACB' \\ &= AB(C+C') + AB'(C+C') + ABC + A'BC + ABC \\ &= ABC + ABC' + AB'C + A'BC + AB'C' \\ &= m(111) + m(110) + m(101) + m(011) + m(100) \end{aligned}$$

$$= m_7 + m_6 + m_5 + m_4 + m_3$$