Digital Circuit Optimization

Logic Minimization

ABC	Y
000	0
001	1
010	0
011	1
100	0
101	1
110	0
111	0

Logic Minimization

Logic Minimization

Logic Minimization

Logic Minimization

$A + A \cdot B$

Logic Minimization

$$(A + B) \cdot (A + C)$$

Logic Minimization

$$F = A \cdot B \cdot C + A \cdot B \cdot \bar{C} + \bar{A} \cdot B \cdot C + \bar{A} \cdot B$$

Logic Minimization

$$F = (A+B+C)\cdot(A+B+\bar{C})\cdot(A+\bar{C})$$

Logic Minimization

$$F = \overline{A \cdot B \cdot C} + \bar{A} \cdot B \cdot C + \overline{A \cdot C}$$

Logic Minimization

$$F = A + \bar{A} \cdot B$$

Logic Minimization

$$F = (A \oplus B) + (A \oplus \bar{B})$$

Logic Minimization

$$F = \overline{A \oplus B} + A \cdot B \cdot C + \overline{A \cdot B}$$

Logic Minimization

$$F = A \cdot B + \bar{A} + \bar{B}$$

Logic Minimization

$$F = \overline{(\bar{A} + \bar{B})} + \overline{(A + B)} + \overline{(A + \bar{B})}$$

Logic Minimization

$$F = A \cdot B + \bar{A}$$

Logic Minimization

$$F = A \cdot (\bar{A} + B)$$

Logic Minimization

$$F = A \cdot \bar{B} + \bar{B} \cdot C + \bar{A} \cdot C$$