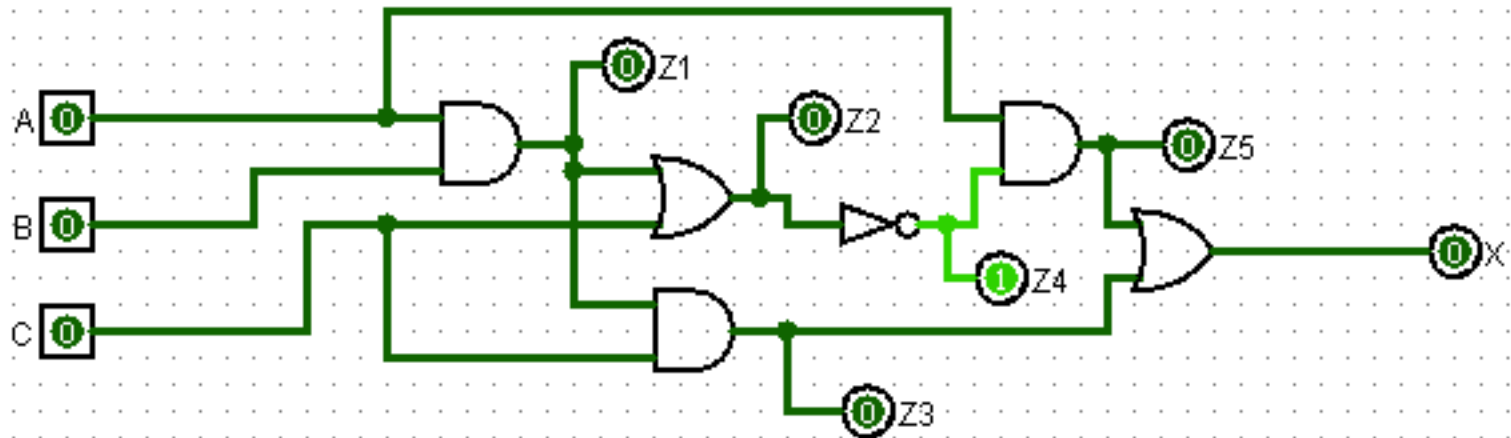


Circuito logico



Sintesi algebrica

$$F = \sim(AB + C)A + (ABC)$$

Semplificazione:

$$= \sim(AB) \sim CA + ABC$$

$$= (\sim A + \sim B) \sim CA + ABC$$

$$= \sim A \sim CA + \sim B \sim CA + ABC$$

$$= \sim A \sim C + A \sim B \sim C + ABC$$

$$= 0 \sim C + A(\sim B \sim C + BC)$$

$$= A(B \text{ xnor } C)$$

DeMorgan: $\sim(X + Y) = \sim X \sim Y$

DeMorgan: $\sim(XY) = \sim X + \sim Y$

$$XW + YW = (X + Y)W$$

$$XY = YX$$

$$X \sim X = 0, WX + WY = W(X + Y)$$

$$0X = 0, \sim X \sim Y + XY = X \text{ xnor } Y$$

Tabella di verità

A	B	C	Z1=AB	Z2=Z1+C	Z3=Z1+C	Z4=~Z2	Z5=A.Z4	X=Z5+Z3
0	0	0	0	0	0	1	0	0
0	0	1	0	1	0	0	0	0
0	1	0	0	0	0	1	0	0
0	1	1	0	1	0	0	0	0
1	0	0	0	0	0	1	1	1
1	0	1	0	1	0	0	0	0
1	1	0	1	1	0	0	0	0
1	1	1	1	1	1	0	0	1

Sviluppo SOP

$$F = m_4 + m_7 = A \sim B \sim C + ABC$$

Semplificazione da SOP

$$= A(\sim B \sim C + BC)$$

$$= A(B \text{ xnor } C)$$