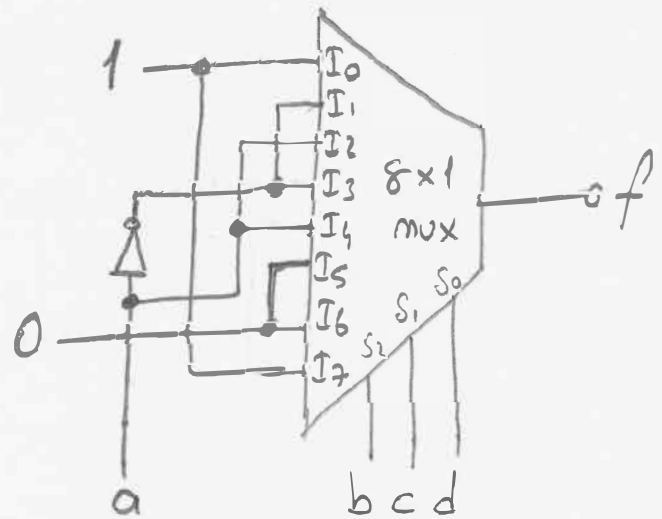


3 - 8x1 mux ile tasele

$$f(a,b,c,d) = \sum (0,1,3,7,8,10,12,15)$$

| | a | b | c | d | f |
|----|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 | 1 |
| 2 | 0 | 0 | 1 | 0 | |
| 3 | 0 | 0 | 1 | 1 | 1 |
| 4 | 0 | 1 | 0 | 0 | |
| 5 | 0 | 1 | 0 | 1 | |
| 6 | 0 | 1 | 1 | 0 | |
| 7 | 0 | 1 | 1 | 1 | 1 |
| 8 | 1 | 0 | 0 | 0 | 1 |
| 9 | 1 | 0 | 0 | 1 | |
| 10 | 1 | 0 | 1 | 0 | 1 |
| 11 | 1 | 0 | 1 | 1 | |
| 12 | 1 | 1 | 0 | 0 | 1 |
| 13 | 1 | 1 | 0 | 1 | |
| 14 | 1 | 1 | 1 | 0 | |
| 15 | 1 | 1 | 1 | 1 | 1 |

| | I ₀ | I ₁ | I ₂ | I ₃ | I ₄ | I ₅ | I ₆ | I ₇ |
|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| a' | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| a | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | 1 | a' | a | a' | a | 0 | 0 | 1 |



| | 4 | 2 | 1 | | | |
|---|---|---|---|-------|-------|-------|
| | A | B | C | T_A | T_B | T_C |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 7 | 1 | 1 | 1 | 1 | 0 | 1 |
| 2 | 0 | 1 | 0 | 0 | 1 | 1 |
| 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 6 | 1 | 1 | 0 | 0 | 1 | 0 |
| 4 | 1 | 0 | 0 | 0 | 0 | 1 |
| 5 | 1 | 0 | 1 | 1 | 1 | 0 |
| 3 | 0 | 1 | 1 | 0 | 1 | 1 |

| $Q(t)$ | $Q(t+1)$ | T |
|--------|----------|-----|
| 0 | 0 | 0 |
| 1 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

| TA | | BC | B' | | B | |
|----|----|----|----|----|----|----|
| | | | 00 | 01 | 11 | 10 |
| A | A' | 0 | 1 | 1 | 0 | 0 |
| A | 1 | 1 | 0 | 1 | 1 | 0 |

$$T_A = A'B' + AC$$

| TB | B' | | B | |
|----------|------|----|-----|----|
| | 00 | 01 | 11 | 10 |
| $A' = 0$ | 1 | 1 | 1 | 1 |
| $A = 1$ | 0 | 1 | 0 | 1 |
| | C' | | C | |

$$T_B = A' + B'C + BC'$$

$$T_B = A' + (B \oplus C)$$

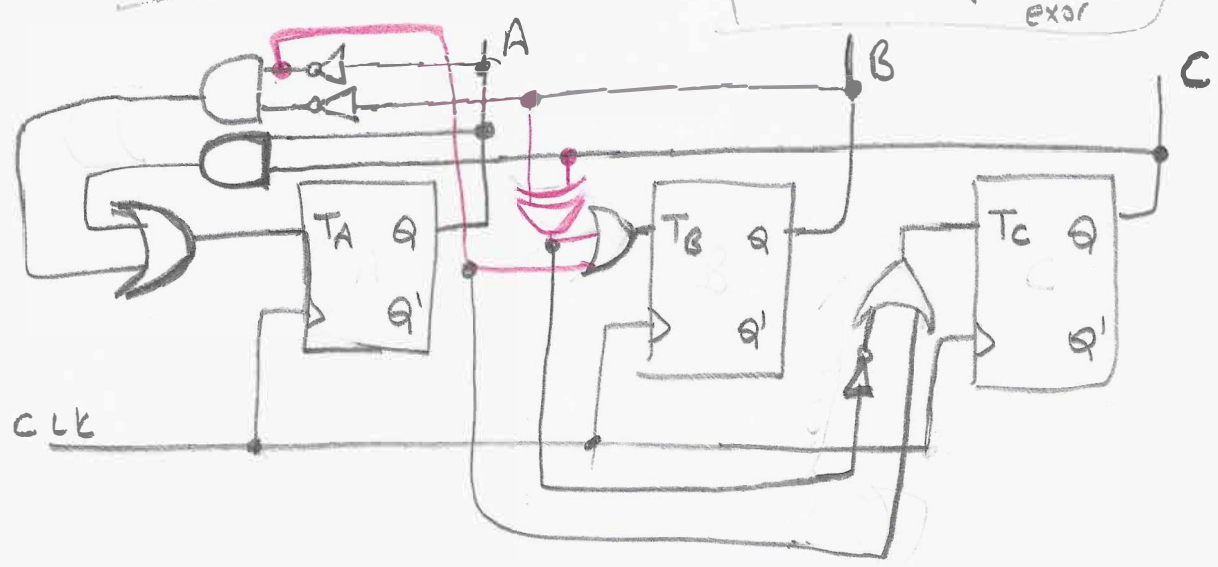
exor

| | | | | | |
|------|---|------|----|-----|------|
| TC | | B' | | B | |
| | | 00 | 01 | 11 | 10 |
| A' | 0 | 1 | 1 | 1 | 1 |
| A | 1 | 1 | 0 | 1 | 0 |
| | | C' | | C | C' |

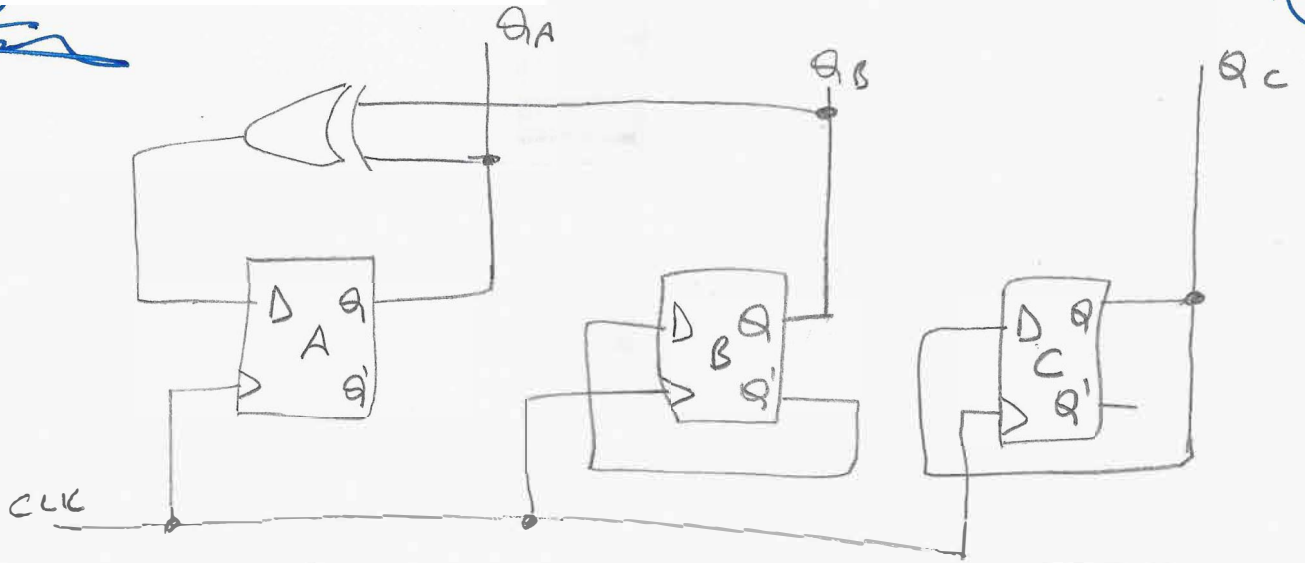
$$T_C = A' + B'C + BC'$$

$$T_C = A' + (B \oplus C)$$

exor



5



| Önceki Durum | | | Sonraki Durum | | |
|--------------|----|----|---------------|-----|-----|
| QA | QB | QC | QA+ | QB+ | QC+ |
| 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 1 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 | 1 | 0 |
| 1 | 0 | 1 | 1 | 1 | 0 |
| 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 0 | 0 | 1 |

$$D_A = Q_A \oplus Q_B$$

$$Q_A(t+1) = Q_A' Q_B + Q_A Q_B'$$

$$Q_B(t+1)$$

$$D_B = Q_B'$$

$$Q_C(t+1)$$

$$D_C = Q_C$$

BİTTİ!