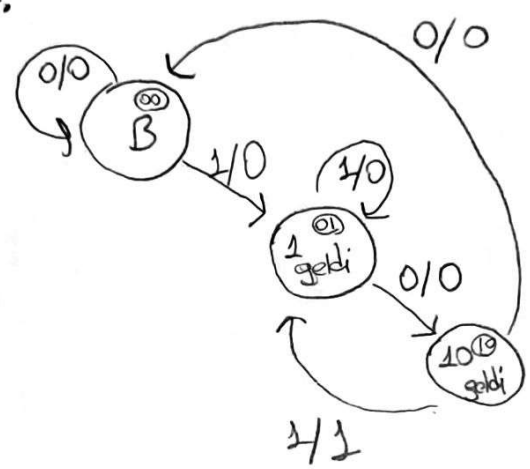
BIL 264

ödev 6

191101010

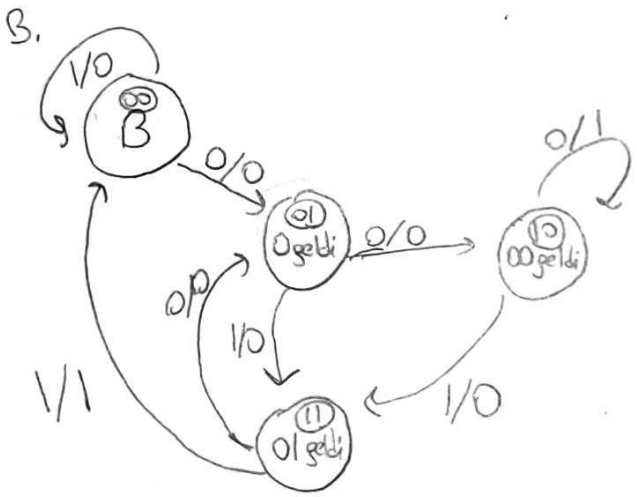
murat Sahin

1. A.

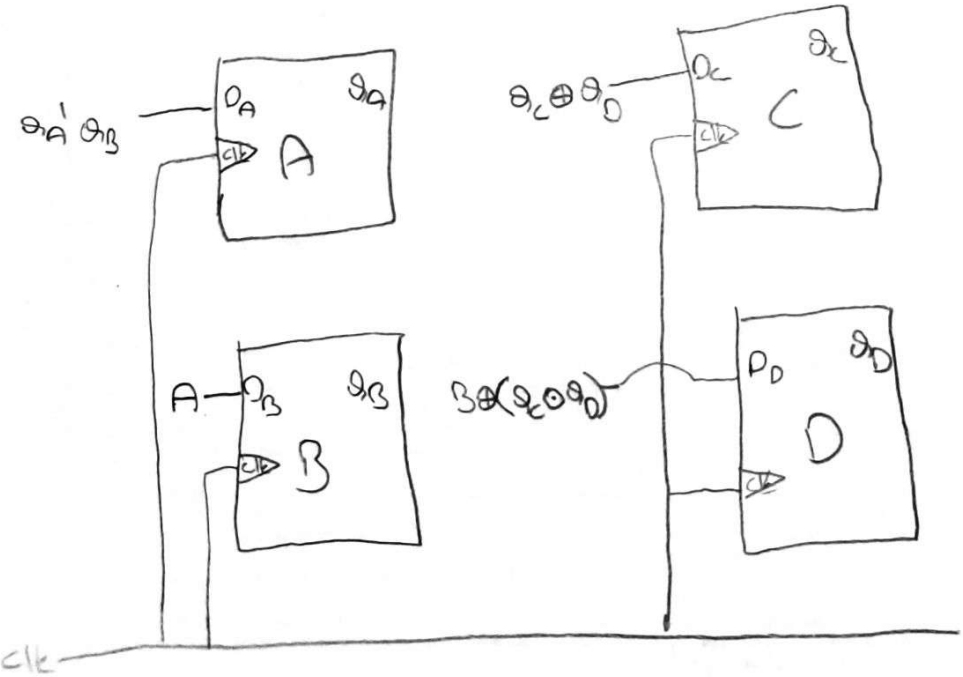


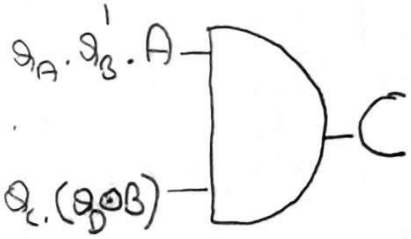

| $Q_A$ $Q_B$ | A | $D_A$ $D_B$ | C |
|---|---|---|---|
| 0 0 | 0 | 0 0 | 0 |
| 0 0 | 1 | 0 1 | 0 |
| 0 1 | 0 | 1 0 | 0 |
| 0 1 | 1 | 0 1 | 0 |
| 1 0 | 0 | 0 0 | 0 |
| 1 0 | 1 | 0 1 | 1 |
| 1 1 | 0 | X X | X |
| 1 1 | 1 | X X | X |

B.

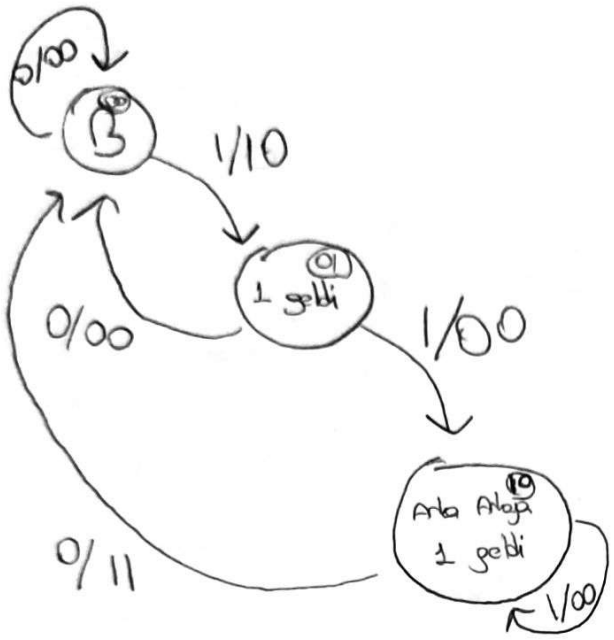



| $Q_C$ $Q_D$ | B | $D_C$ $D_D$ | C |
|---|---|---|---|
| 0 0 | 0 | 0 1 | 0 |
| 0 0 | 1 | 0 0 | 0 |
| 0 1 | 0 | 1 0 | 0 |
| 0 1 | 1 | 1 1 | 0 |
| 1 0 | 0 | 1 0 | 0 |
| 1 0 | 1 | 1 1 | 0 |
| 1 1 | 0 | 0 1 | 0 |
| 1 1 | 1 | 0 0 | 1 |

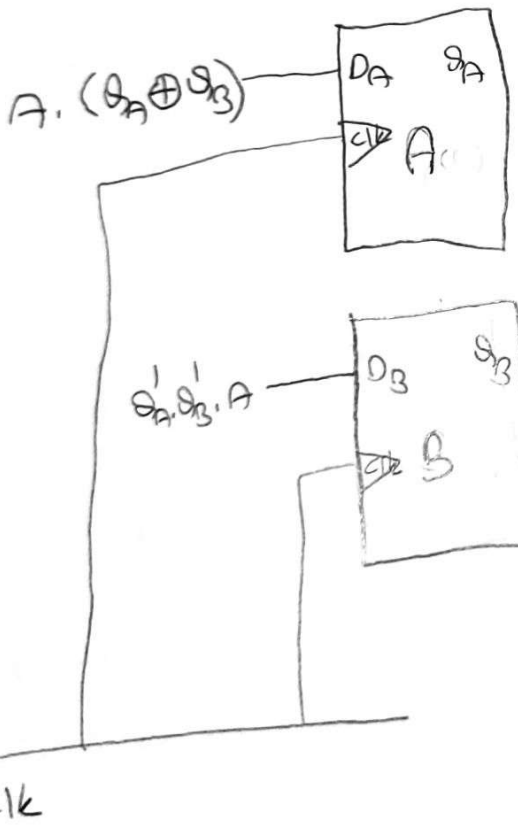


2.




| $Q_A$ | $Q_B$ | A | $D_A$ | $D_B$ | B | C |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 1 | 0 | 1 | 1 | 0 | x | x |
| 1 | 1 | 0 | x | x | x | x |
| 1 | 1 | 1 | x | x | | |

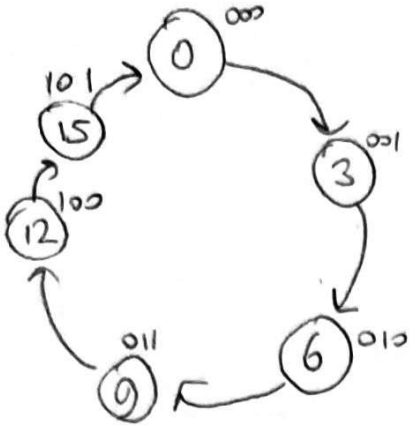



$Q'_B(Q_A \oplus A)$ → B

$Q_A\, Q'_B\, A'$ → C

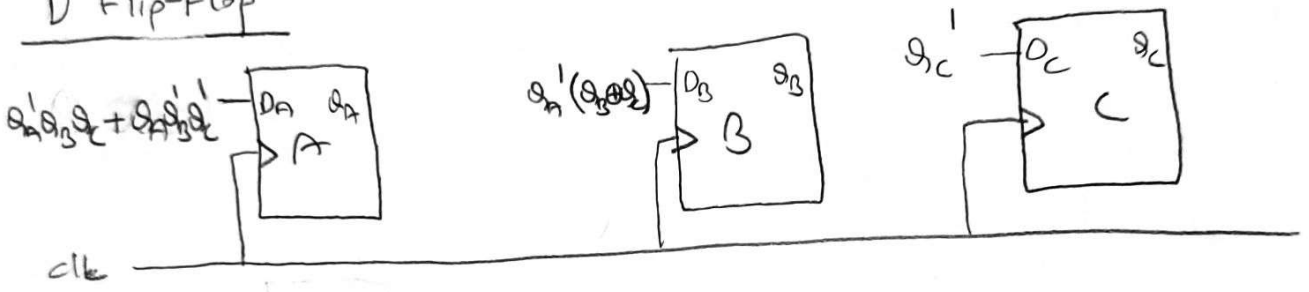
3. 6 adet durum vardır. 3 bit ile gösterilir.

↗ J ve K Flip-flop başka şekilde de kullanılabilir.

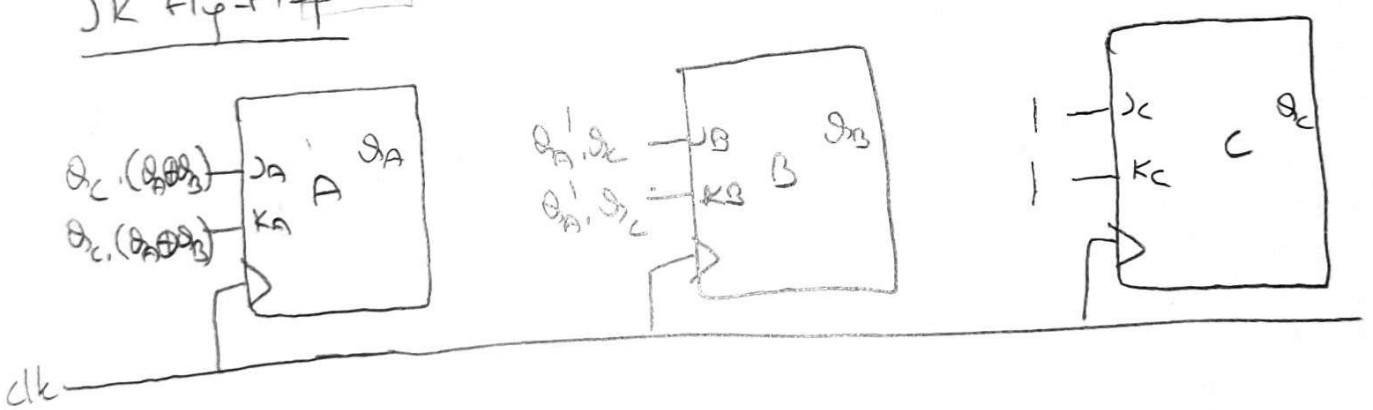



| Şimdiki | Sonraki | $D_A D_B D_C$ | $J_A K_A$ $J_B K_B$ $J_C K_C$ | $T_A T_B T_C$ |
|---|---|---|---|---|
| 000 | 001 | 001 | 00 00 11 | 00 1 |
| 001 | 010 | 010 | 00 11 11 | 01 1 |
| 010 | 011 | 011 | 00 00 11 | 00 1 |
| 011 | 100 | 100 | 11 11 11 | 11 1 |
| 100 | 101 | 101 | 00 00 11 | 00 1 |
| 101 | 000 | 000 | 11 00 11 | 10 1 |
| 110 | xxx | xxx | xx xx xx | xxx |
| 111 | xxx | xxx | xx xx xx | xxx |

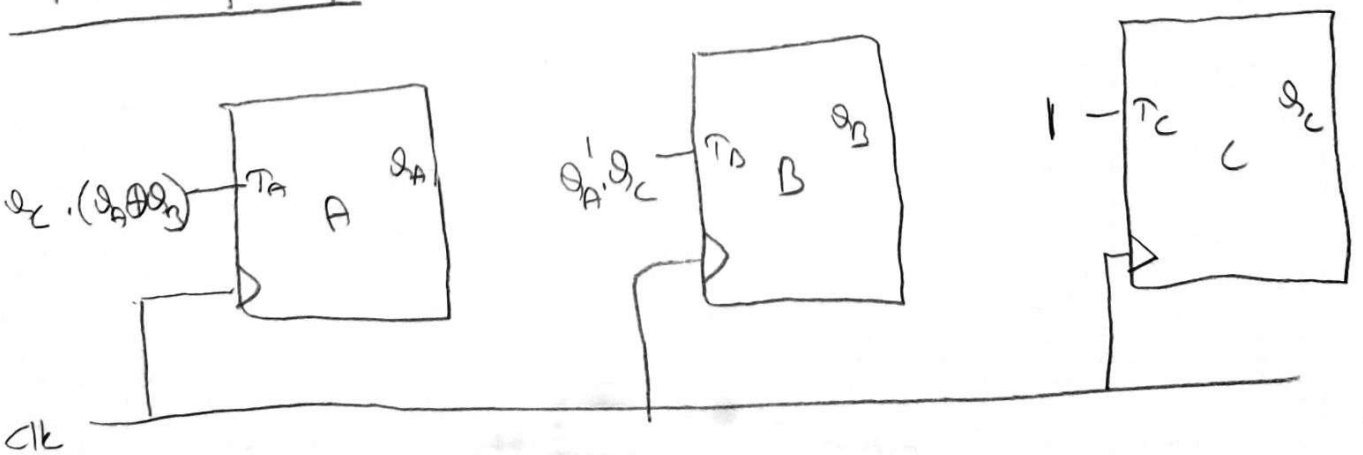
D Flip-Flop




JK Flip-Flop




T Flip-Flop



4. $y_1(t+1) = x \cdot y_1(t) + x' \cdot y_2(t)$

$y_2(t+1) = x \cdot y_1(t) + x \cdot y_1'(t) \cdot y_2(t) = x \cdot (y_1(t) + y_2(t))$

$z = y_1(t) \cdot y_2(t)$

| $y_1(t)$ | $y_2(t)$ | $x$ | $y_1(t+1)$ | $y_2(t+1)$ | $z$ |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 0 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 1 | 1 | 0 |
| 1 | 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 |