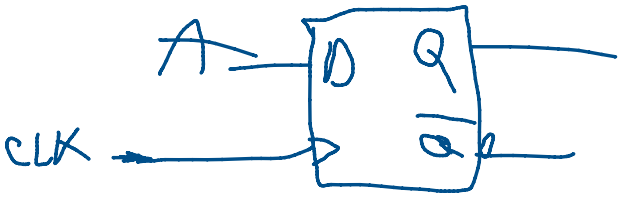
Proiectare Logica - 15.12.2020

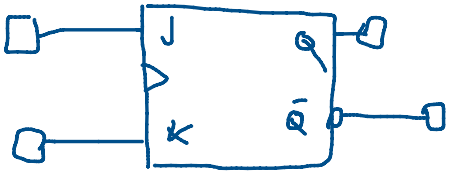
Tuesday, December 15, 2020 3:31 PM

D flip-flop



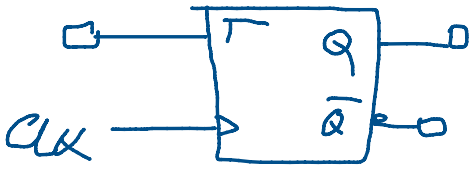
D	Q
0	0
1	1

JK flip-flop



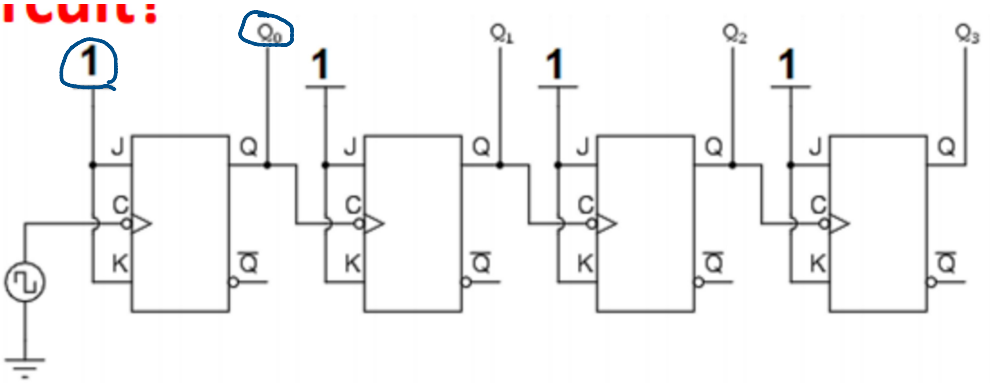
J	K	Q
0	0	Qant
0	1	0 (Reset)
1	0	1 (Set)
1	1	$\bar{Q}$ (Toggle)

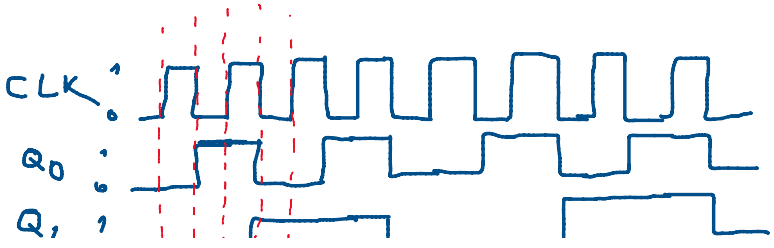
T flip-flop

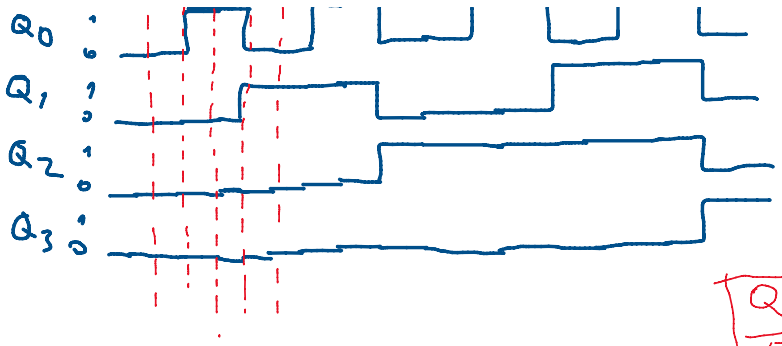


T	Q
0	Qant
1	$\bar{Q}$ (Toggle)

Circuit:







Q	Q(n+1)	J	K
0	0	0	x
0	1	1	x
1	0	x	1
1	1	x	0

5-7-2-5

3-6-4-0-1-6

#	Q_2	Q_1	Q_0	Q_2^+	Q_1^+	Q_0^+	J_2	K_2	J_1	K_1	J_0	K_0
0	0	0	0	0	0	1	0	x	0	x	1	x
1	0	0	1	1	1	0	1	x	1	x	x	1
2	0	1	0	1	0	1	1	x	x	1	1	x
3	0	1	1	1	1	0	1	x	x	0	x	1
4	1	0	0	0	0	0	x	1	0	x	0	x
5	1	0	1	1	1	1	x	0	1	x	x	0
6	1	1	0	1	0	0	x	0	x	1	0	x
7	1	1	1	0	1	0	x	1	x	0	x	1

J_2)

Q_1Q_0	$\bar{Q}_2$	Q_2
$\bar{Q}_1\bar{Q}_0$	0	x
$\bar{Q}_1 Q_0$	1	x
$Q_1 Q_0$	1	x
$Q_1\bar{Q}_0$	1	x

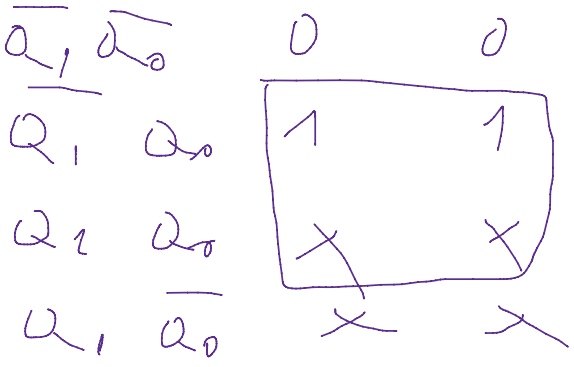
$J_2 = Q_0 + Q_1$

K_2)

Q_1Q_0	$\bar{Q}_2$	Q_2
$\bar{Q}_1\bar{Q}_0$	x	1
$\bar{Q}_1 Q_0$	x	0
$Q_1 Q_0$	x	1
$Q_1\bar{Q}_0$	x	0

$K_2 = \bar{Q}_1\bar{Q}_0 + Q_1Q_0$

J_1) Q_1Q_0 | $\bar{Q}_2$ | Q_2



$J_1 = Q_0$

$K_1 = \overline{Q_0}$

$J_0 = \overline{Q_2}$

$K_0 = Q_0 + Q_1$