SR Latch

R	S	Q*	Q'	Command
0	0	Q	Q'	Remember
0	1	1	0	Set
1	0	0	1	Reset
1	1	?	?	Invalid

$$Q* = S + RQ$$

Gated SR Latch

E	R	S	Q*	Q'*	Command
0	x	x	Q	Q'	Remember
1	0	0	Q	Q'	Remember
1	0	1	1	0	Set
1	1	0	0	1	Reset
1	1	1	?	?	Invalid

$$Q* = SE + QR + EQ$$

ERS

1x0,0xx   101   10x,0xx
110

S

R

E

Q

Q'

D Latch

E	D	Q*	Command
0	x	Q	Remember
1	0	0	Transparent
1	1	1	Transparent

$$Q*=DE+EQ$$

ED

D

E

Q
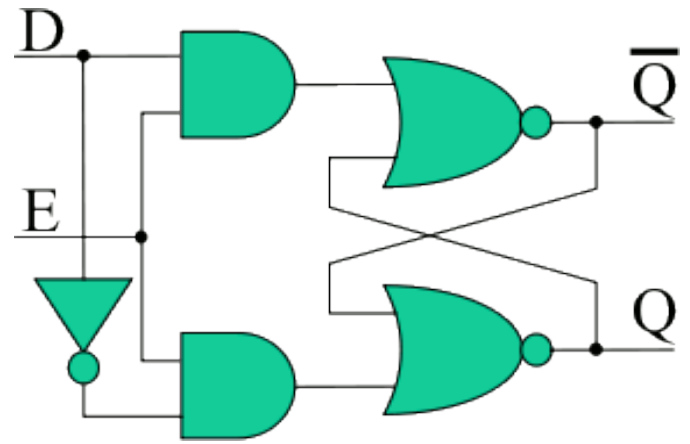
Q'
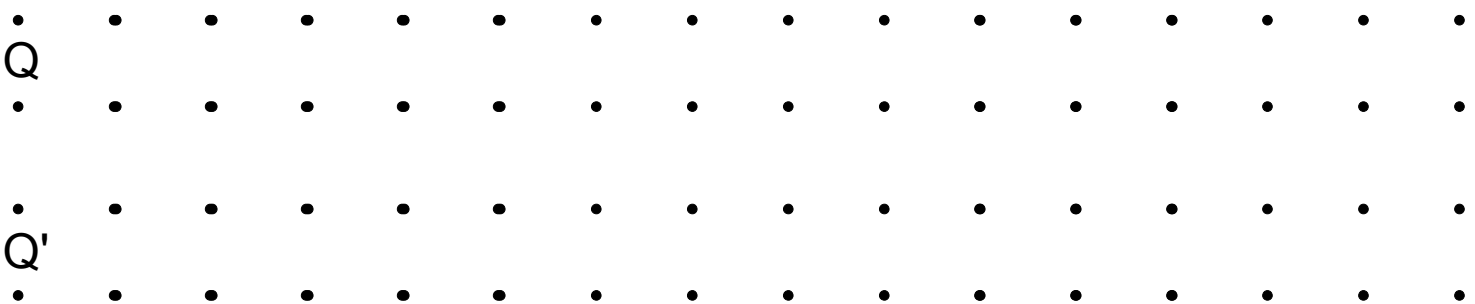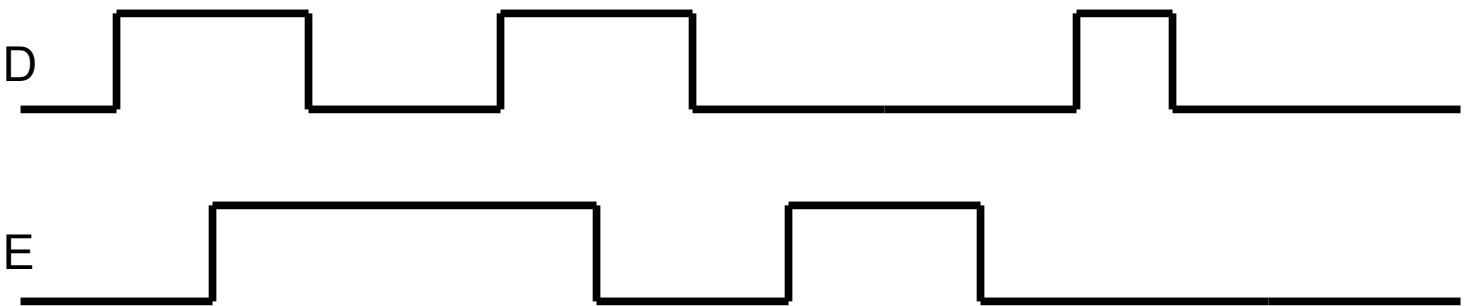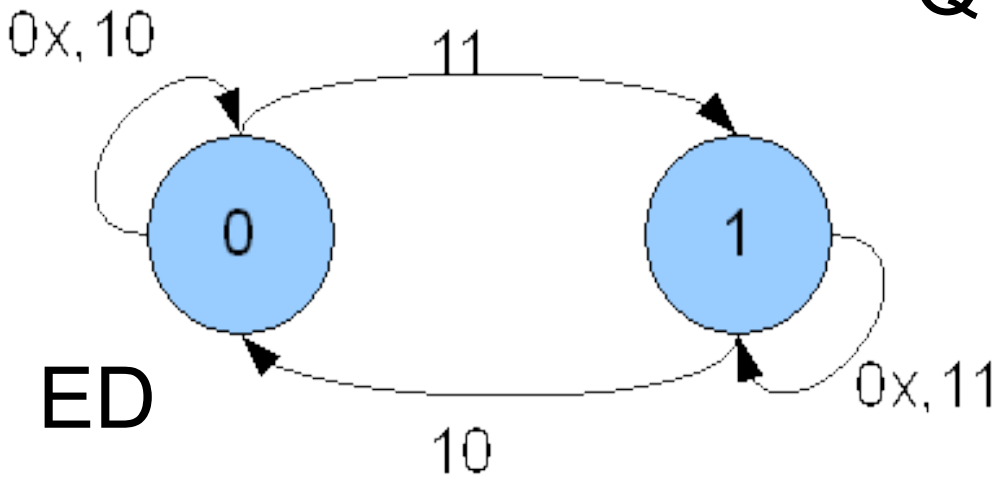
D Flip-Flop

D	C	Q*	Command
0	↑	0	Reset
1	↑	1	Set

$Q*=D$

JK Flip-Flop

J	K	C	Q*	Command
0	0	↑	Q	Remember
0	1	↑	0	Reset
1	0	↑	1	Set
1	1	↑	Q'	Toggle

$$Q^*=KQ+JQ$$

0x

1x

0   1

JK

x1   x0

J

K

C

Q

Q'
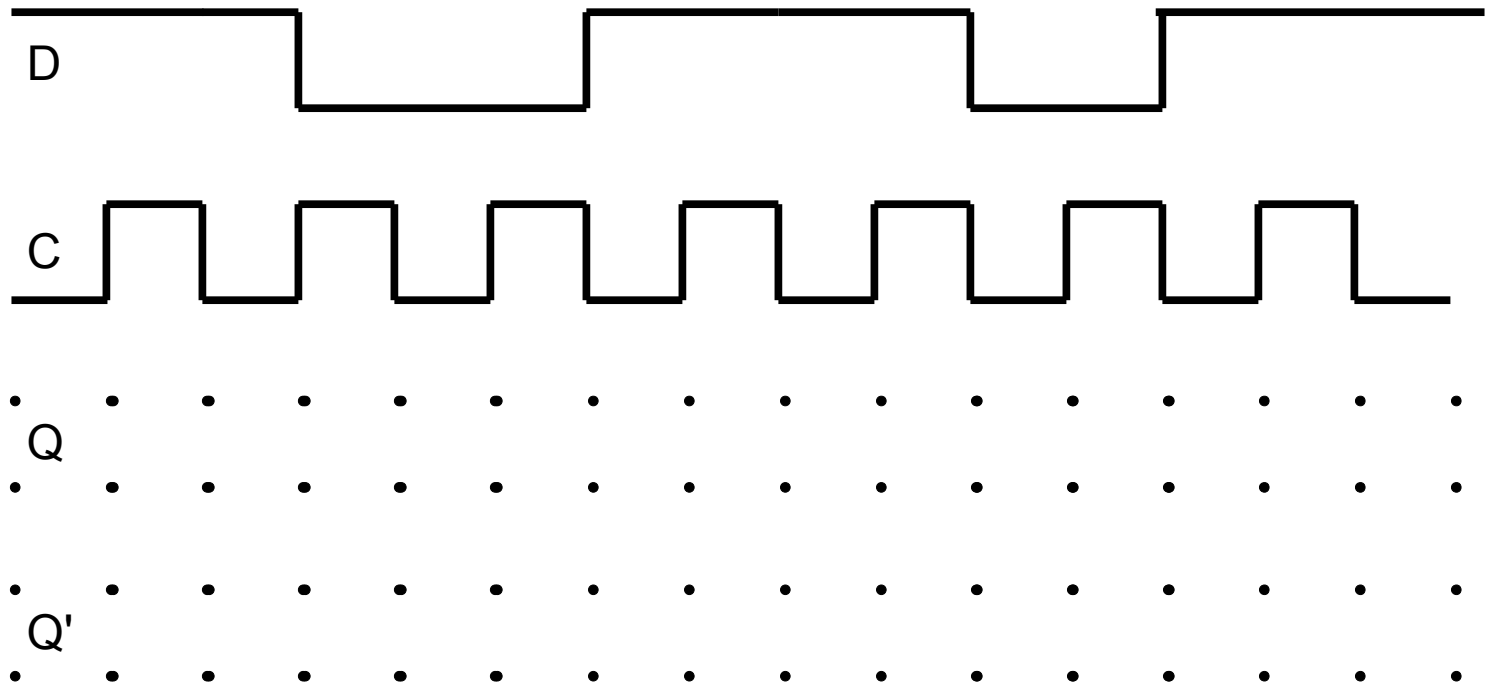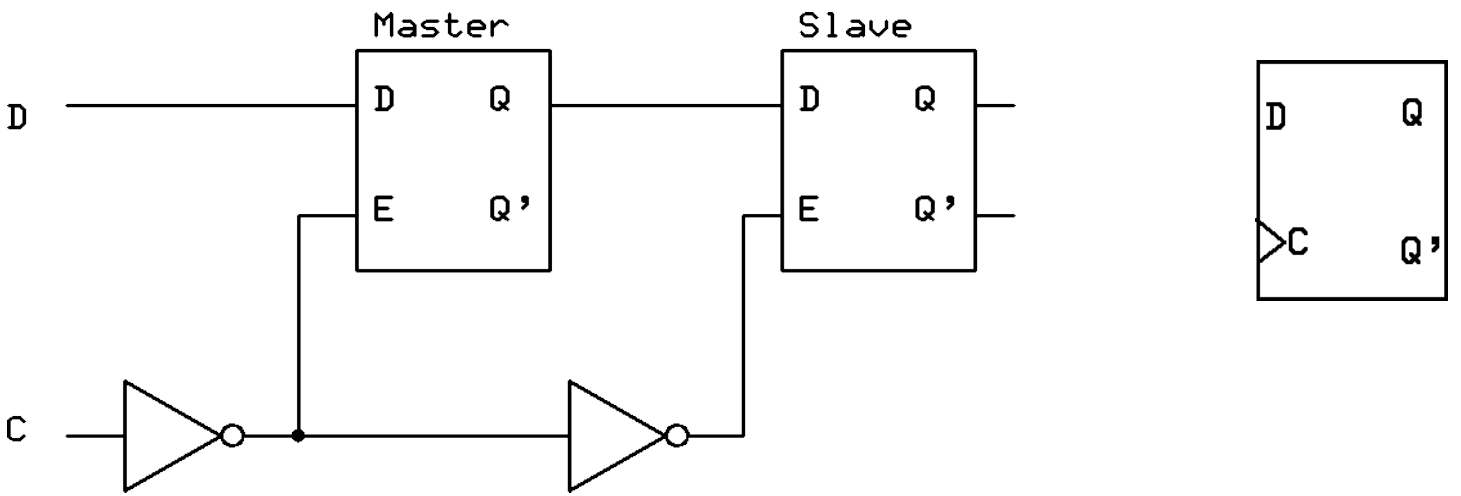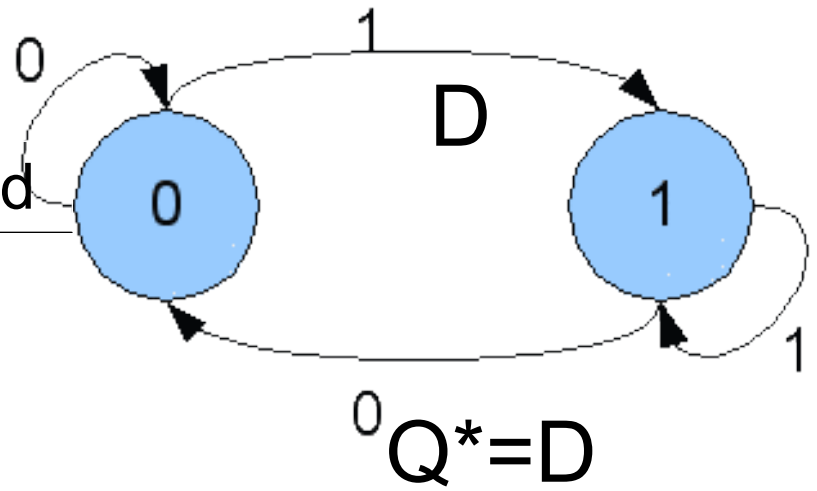
T Flip-Flop (Edge Triggered)

T	Q*	Command
↓	Q'	Toggle
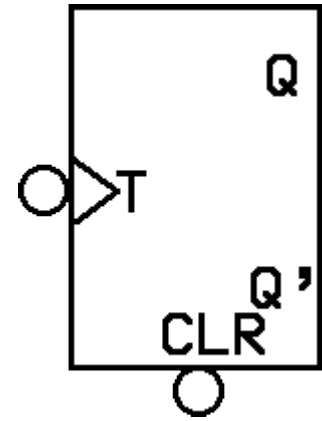
$Q^* = \overline{Q}$
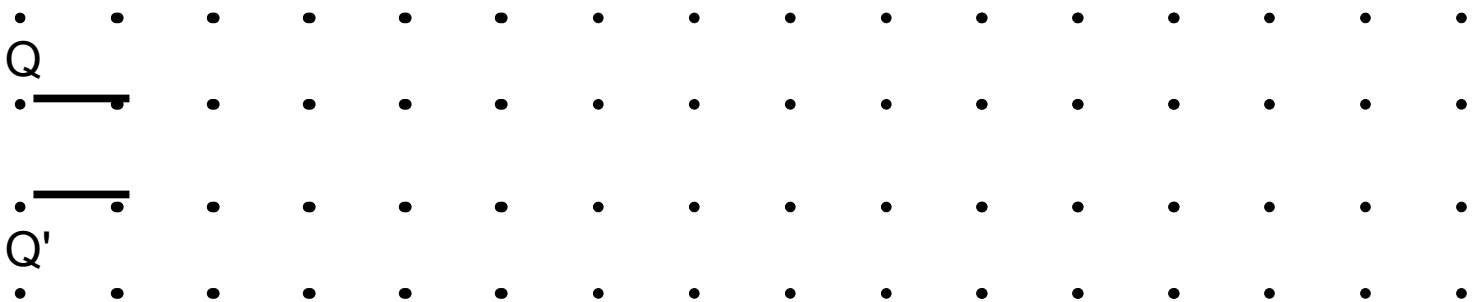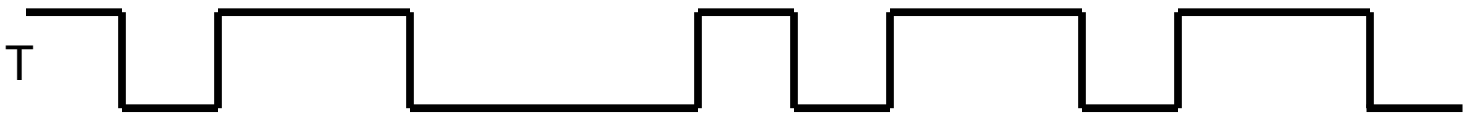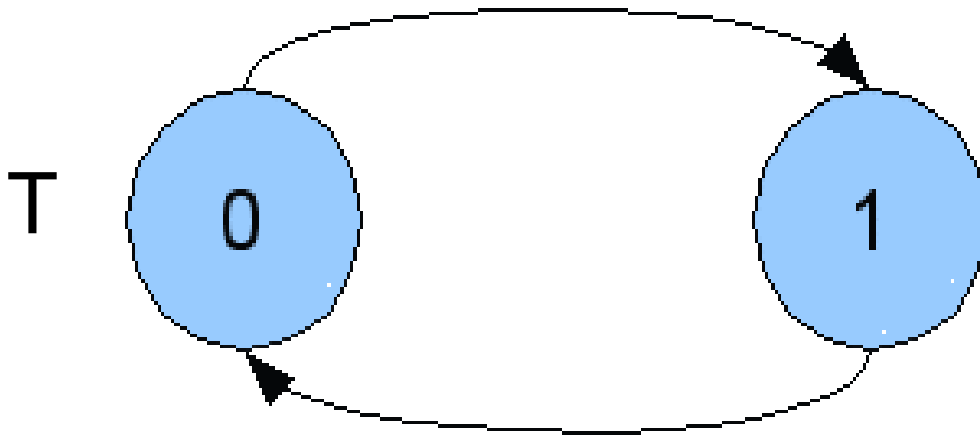
T Flip-Flop (Clocked)

T	C	Q*	Command
0	↓	Q	Remember
1	↓	Q	Toggle

$$Q*=TQ+TQ$$