

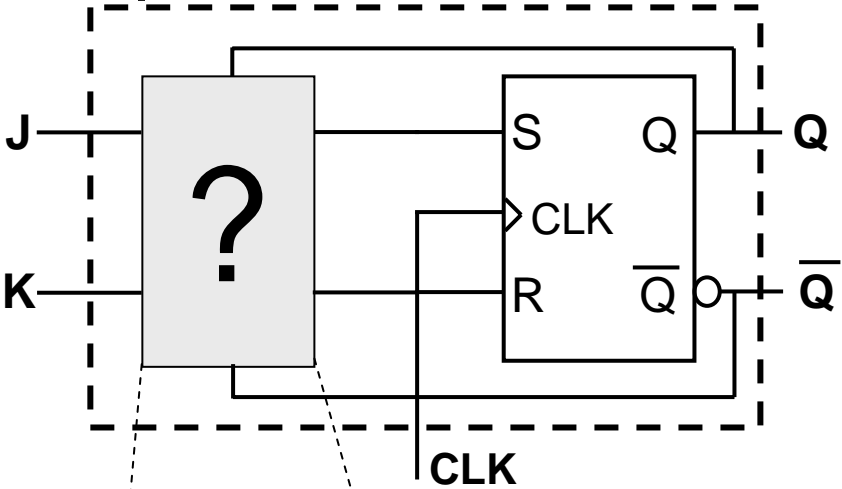


# Answers Homework 7

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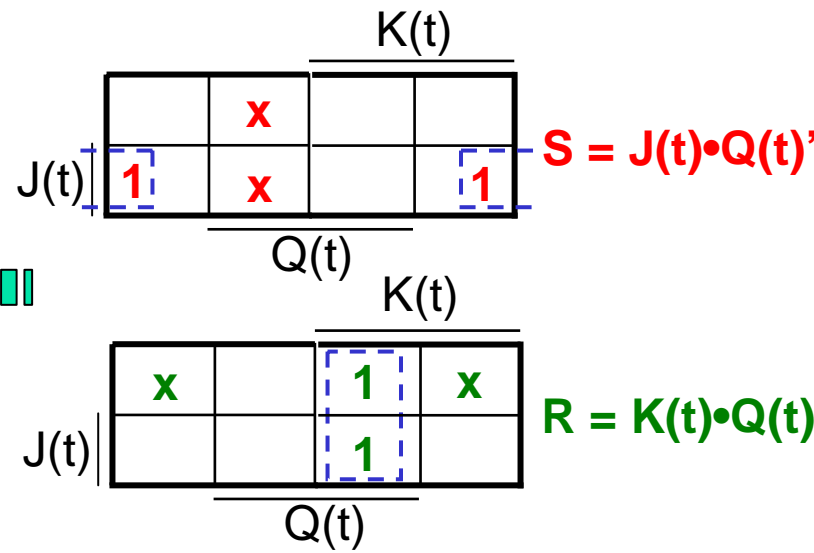
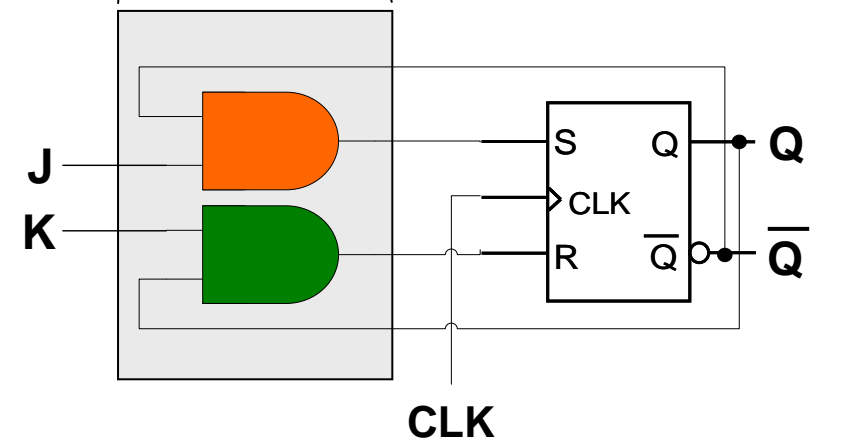
# JK Flip-Flop with SR Flip-Flop

Determine S and R using the Execution Table for SR

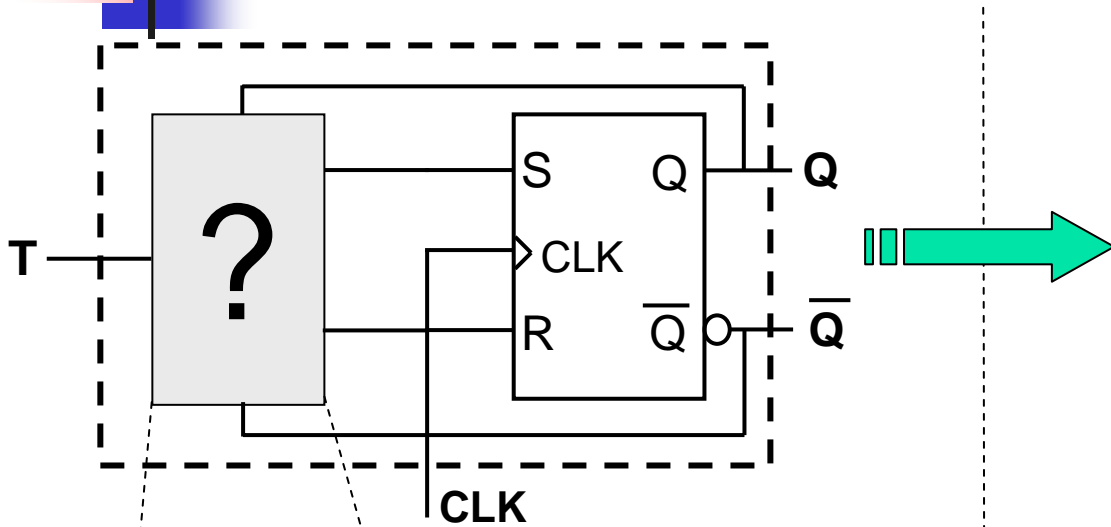


Characteristic Table JK

J(t)	K(t)	Q(t)	Q(t+1)	S	R
0	0	0	0	0	x
0	0	1	1	x	0
0	1	0	0	0	x
0	1	1	0	0	1
1	0	0	1	1	0
1	0	1	1	x	0
1	1	0	1	1	0
1	1	1	0	0	1



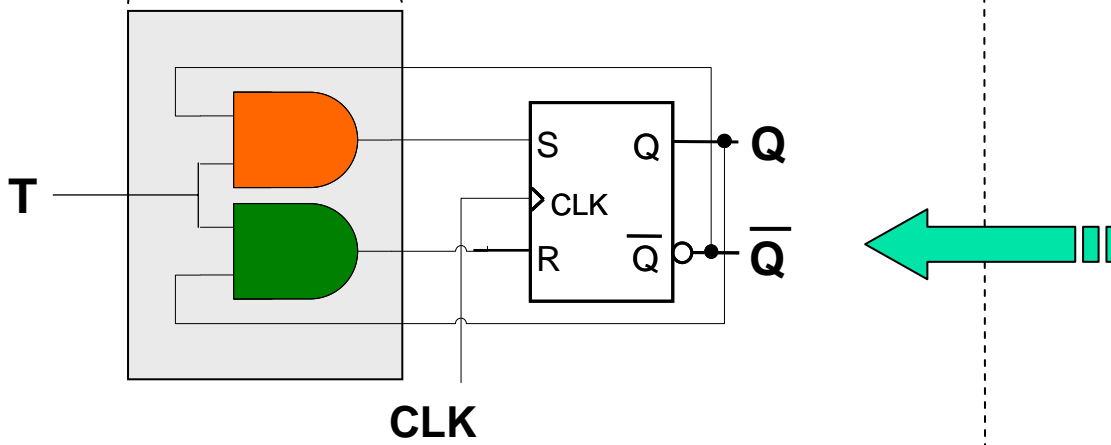
# T Flip-Flop with SR Flip-Flop



Determine S and R using the Execution Table for SR

Characteristic Table T

T	Q(t)	Q(t+1)	S	R
0	0	0	0	x
0	1	1	x	0
1	0	1	1	0
1	1	0	0	1



$$S = T(t) \cdot Q'(t)$$

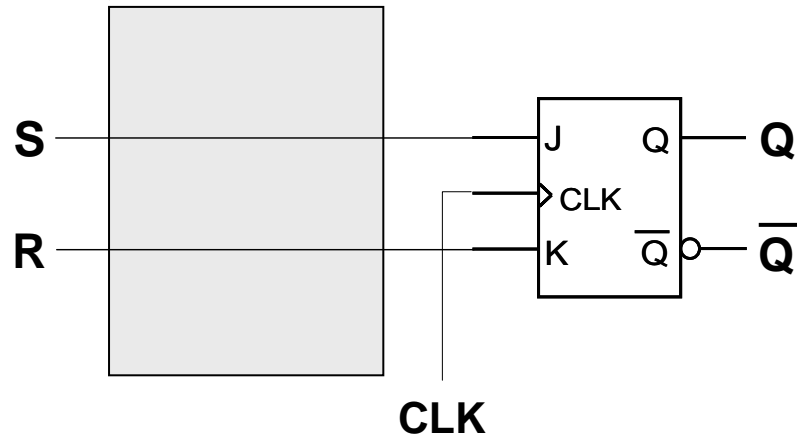
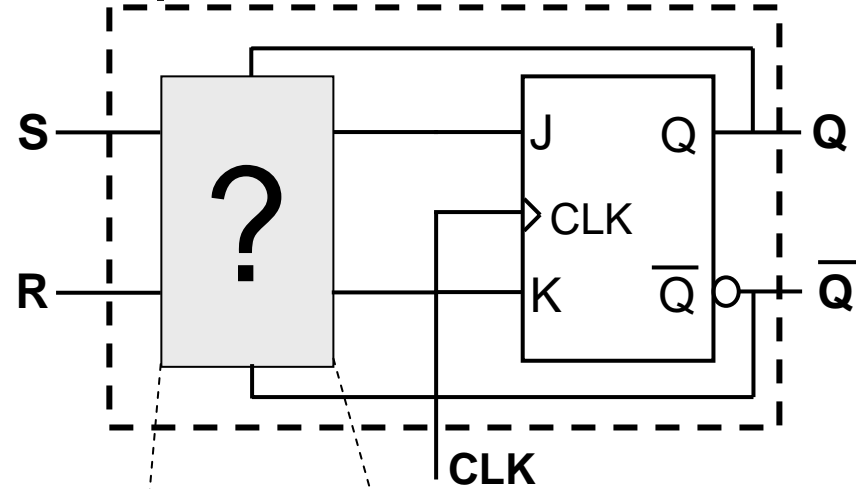
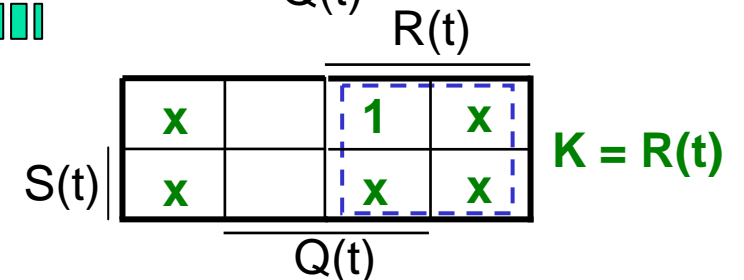
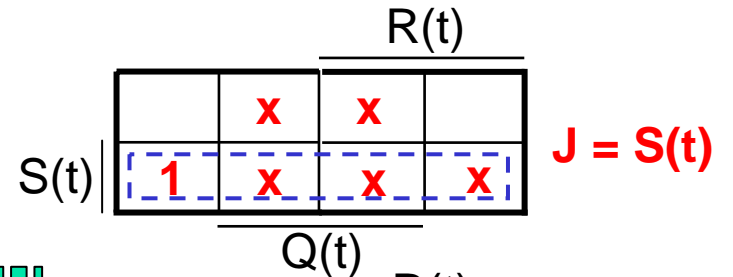
$$R = T(t) \cdot Q(t)$$

# SR Flip-Flop with JK Flip-Flop

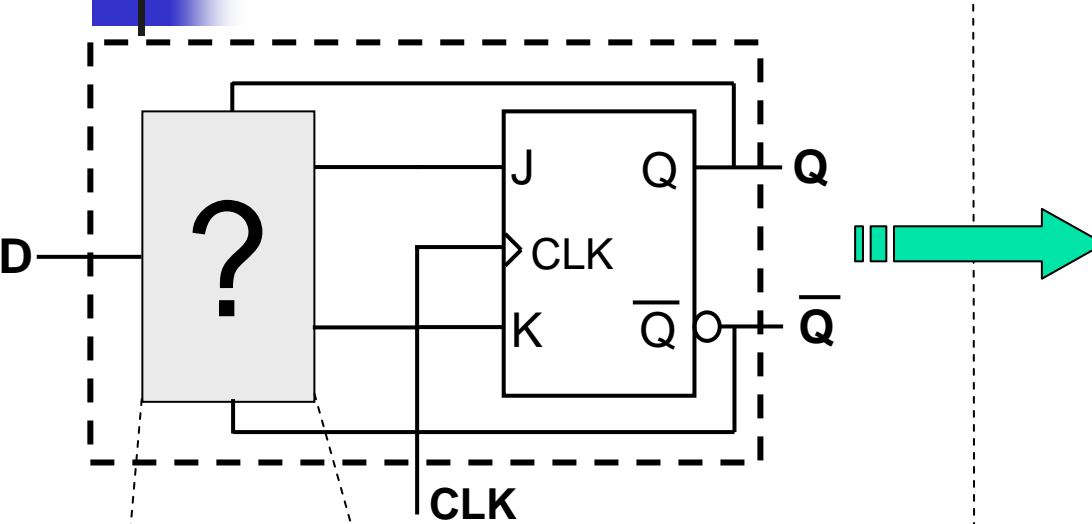
Determine J and K using the Execution Table for JK

Characteristic Table RS

S(t)	R(t)	Q(t)	Q(t+1)	J	K
0	0	0	0	0	x
0	0	1	1	x	0
0	1	0	0	0	x
0	1	1	0	x	1
1	0	0	1	1	x
1	0	1	1	x	0
1	1	0	?	x	x
1	1	1	?	x	x



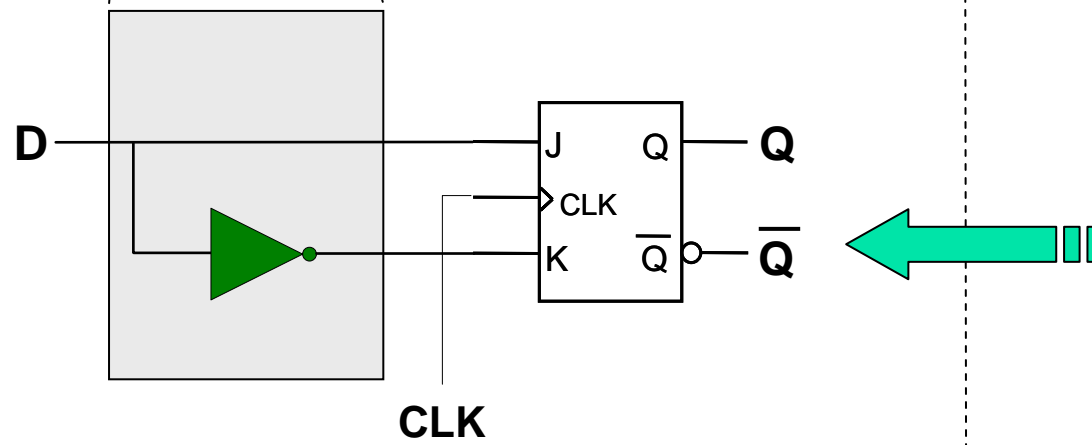
# D Flip-Flop with JK Flip-Flop



Determine J and K using the Execution Table for JK

Characteristic Table D

D	Q(t)	Q(t+1)	J	K
0	0	0	0	x
0	1	0	x	1
1	0	1	1	x
1	1	1	x	0



D(t)	Q(t)
	x
1	x

**J = D(t)**

D(t)	Q(t)
x	1
x	

**K = D'(t)**