



Case Analysis for T-Flip-flop.

Input for T	Previous state (Q)	Previous complement (Q')	a	b	c	d	Next state Q_{n+1}	complement of next state $(Q_{n+1})'$
0	0	1	1	1	0	1	0	1
	1	0	1	0	1	1	1	0
1	0	1	0	1	1	1	1	0
	1	0	1	1	0	0	0	1

→ Hari Shah.



$$Q = A \text{ NAND } B$$

Truth Table

Input A	Input B	Output Q
0	0	1
0	1	1
1	0	1
1	1	0

CP	T	Q	Q_{n+1}	State
1	0	0	0	NO CHANGE
1	0	1	1	
1	1	0	1	TOGGLES
1	1	1	0	

Truth Table of T flip flop

CP	T	Q_{n+1}	State
1	0	Q_n	NO CHANGE
1	1	\bar{Q}_n	TOGGLES

Simplified Truth Table of T flip flop