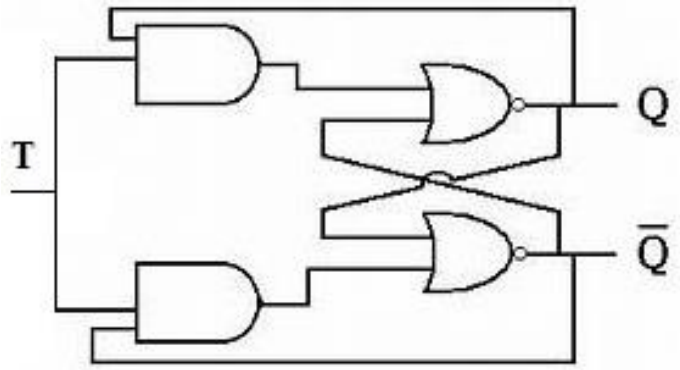
Quiz 12 – to be finished in 15 minutes

Student Name:

Question 1

The following circuit represents a T latch.



A	B	NOR
0	0	1
0	1	0
1	0	0
1	1	0

Refer the above circuit and NOR gate truth table, fill out the state table for T latch.

Tip: Q(t+1) could be “0”, “1”, “~Q(t)” representing one time change from the previous state, “Q(t)” representing no change from the previous state, or “Toggle” representing repeated changes between “0” and “1”. You just need to decide what Q(t+1) should be.

T	Q(t)	~Q(t)	Q(t+1)	~Q(t+1)
0	0	1	0 (or Q(t))	1 (or ~Q(t))
0	1	0	1 (or Q(t))	0 (or ~Q(t))
1	0	1	Toggle	Toggle
1	1	0	Toggle	Toggle

2 pts for each row
If row 3 shows “1 0”, 1 point off
If row 4 shows “0 1” , 1 point off