

# CSC258 Quiz 3

You will be able check the correctness of your answers and the points you get immediately after submitting your answers. You may submit answers multiple times. Your score will be computed using your latest submission before the deadline, and the score you get will be scaled down by a factor of 0.9 for each try you make. The final scores you get in each quiz will be posted on MarkUs.

Make sure to provide the correct UTORID and Student Number. Answers with mismatching UTORID and Student Number will be discarded. The information you provide will be only be visible to the course instructor.

The quiz mark will be pre-released on MarkUs on Friday between 1pm~6pm. You may check your correctness and re-attempt the quiz to get higher marks before the Sunday deadline.

**Open until Sunday, January 29, 10:00 PM**



Your Name \*

Anthony Tam

Your UTORID \*

tamanth2

Your Student Number \*

1002583402

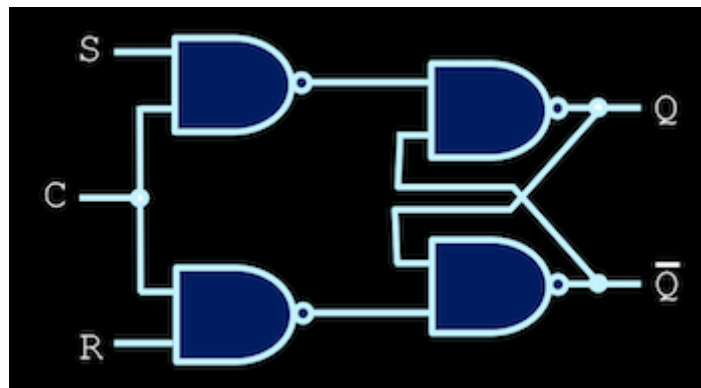
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Question 1: What is the improvement made by D latch compared to SR latch? \*

- ☐ avoid oscillation
- ☒ avoid forbidden state
- ☐ become edge-triggered
- ☐ none of above

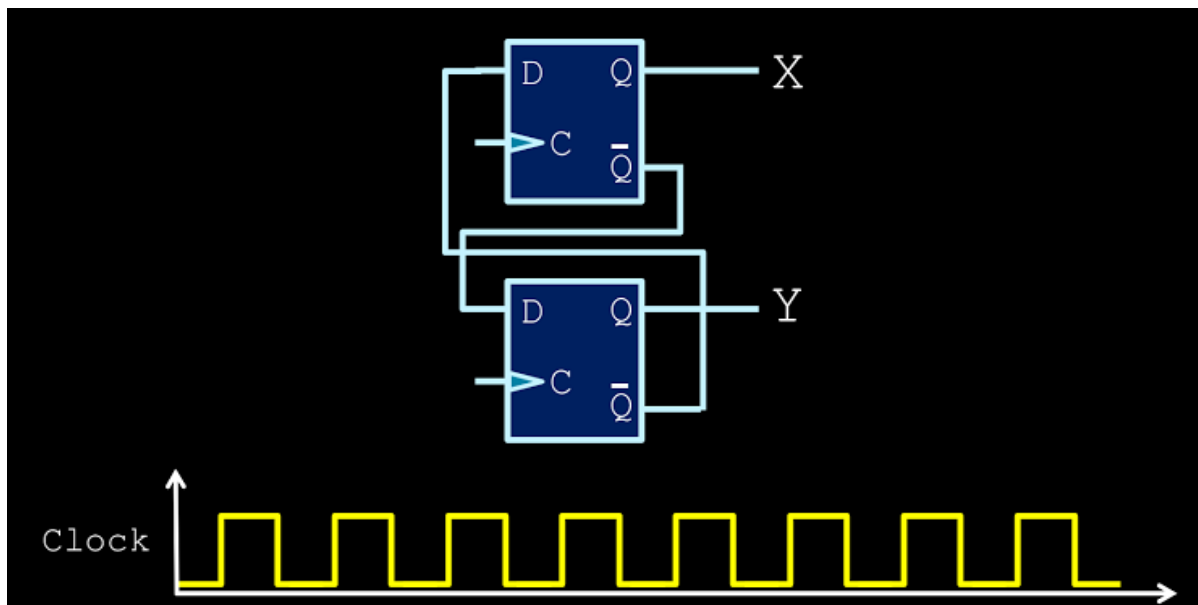
Question 2: What are the values of Q and Q' when S = 0, R = 1, C = 1

\*



- ☐ Q = 0, Q' = 0
- ☒ Q = 0, Q' = 1
- ☐ Q = 1, Q' = 0
- ☐ Q = 1, Q' = 1
- ☐ indeterminate
- ☐ none of above

Question 3: Consider the following circuit with two positive-edge triggered D flip-flops. Assuming the Q outputs of both flip-flops start off low. With the clock signal below, draw the waveform of output X. How many falling edges are there in X's waveform within the 8 clock cycles? \*



- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☒ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ none of above

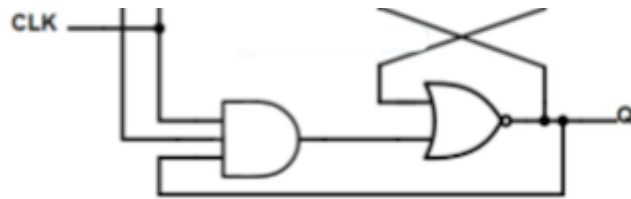
Question 4: Same circuit and clock as in Question 3, draw the waveform of output Y. How many rising edges are there in Y's waveform within the 8 clock cycles? \*

- ☐ 0

☐ 1☐ 2☐ 3☒ 4☐ 5☐ 6☐ 7☐ 8☐ none of above

Question 5: Which kind of flip-flop is implemented in the following diagram? \*





- ☐ B flip-flop
- ☐ C flip-flop
- ☐ D flip-flop
- ☐ J flip-flop
- ☐ K flip-flop
- ☐ JK flip-flop
- ☐ R flip-flop
- ☐ S flip-flop
- ☐ SR flip-flop
- ☒ T flip-flop
- ☐ X flip-flop
- ☐ Y flip-flop
- ☐ Z flip-flop
- ☐ none of above

(Not For Points) How much do you feel that you have learned something by doing this quiz?

	1	2	3	4	5	6	7	
learned nothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	learned a lot

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