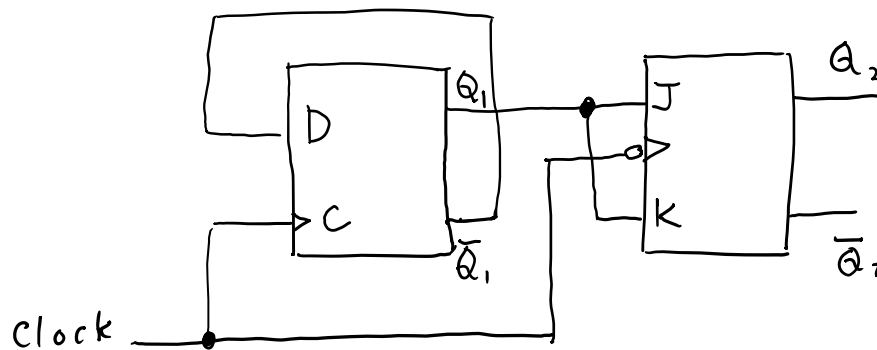


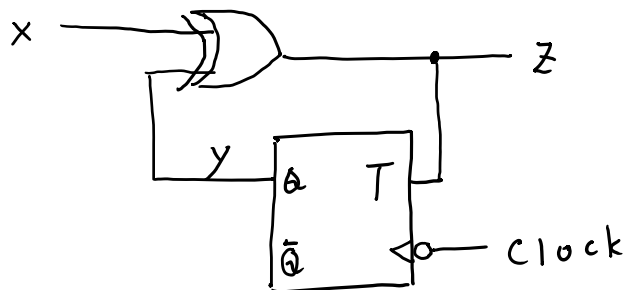
Submit a single PDF file online (Canvas) by 10:50 a.m., 3/25 (Thursday).

You must show how you get your answer in each problem. The final answer only will receive no credit.

1. The circuit below is initially at the state of $Q_1 = Q_2 = 0$. Sketch a timing diagram showing the states of signals Q_1 and Q_2 for a sequence of seven clock pulses.



2. For the synchronous sequential circuit below,
 (i) Find the state table.
 (ii) Find the state diagram.
 (iii) Draw a timing diagram for $x = 000101011$ and y being initially 0.



3. Analyze the synchronous sequential circuit below, deriving flip-flop input equations, state table and state diagram. The state is denoted by (y_1, y_2) .

