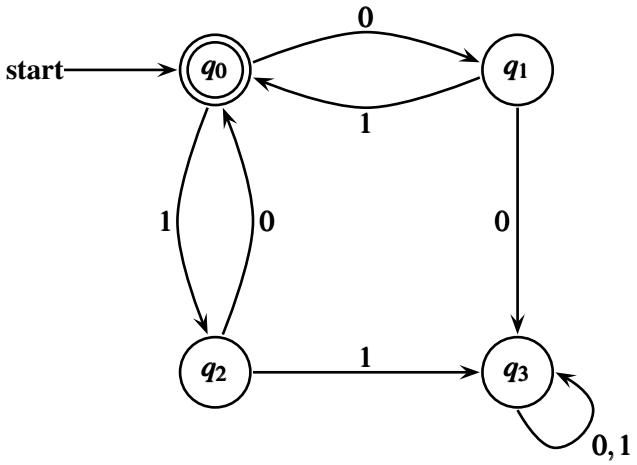
CS 301

Solutions of Assignment #1 Part 2

Problem 1:

(a)



Interpretation of states:

q_0 : after reading current input, DFA has seen equal numbers of 0's and 1's

q_1 : after reading current input, DFA has seen one more 0's than 1's

q_2 : after reading current input, DFA has seen one more 1's than 0's

q_2 : after reading current input, DFA has seen at least two more 0's than 1's or at least two more 1's than 0's

(b)

$$Q = \{q_0, q_1, q_2, q_3\}, \Sigma = \{0,1\}, F = \{q_0\}$$

δ :

	0	1
q_0	q_1	q_2
q_1	q_3	q_0
q_2	q_0	q_3
q_3	q_3	q_3