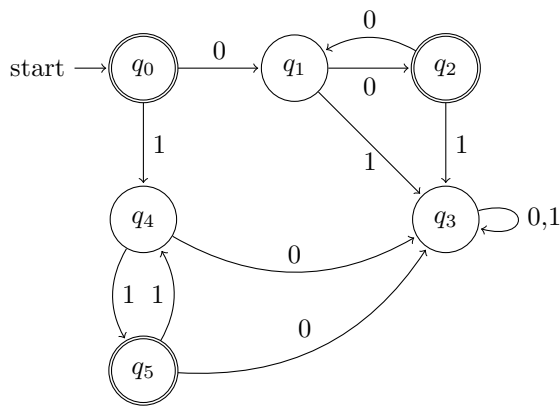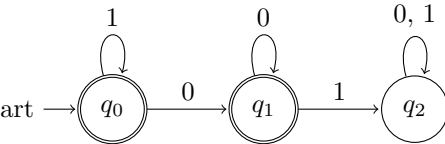# COMP 3602 Assignment 1
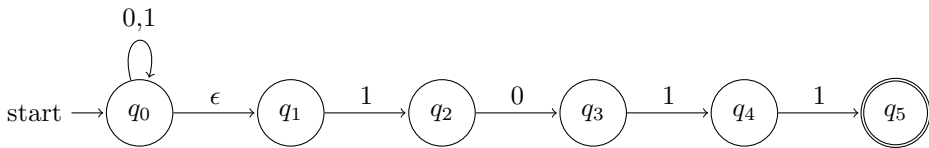
Question 1a)
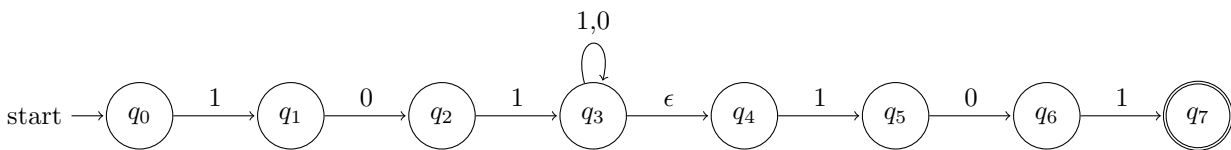


Question 1b)

Question 2a)
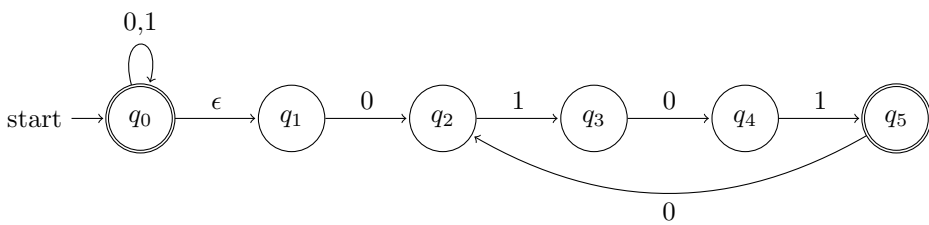


Question 2b)



Question 2c)



2

Question 3)

M = ({q0, q1, q2, q3, q4, q5},{0, 1},δ,q0,{q0, q2, q4})
where δ is

|     | 0   | 1   |
| --- | --- | --- |
| q0  | q1  | q4  |
| q1  | q2  | q3  |
| q2  | q1  | q3  |
| q3  | q3  | q3  |
| q4  | q3  | q5  |
| q5  | q3  | q4  |

Question 4)

M = ({q0, q1, q2, q3, q4, q4, q5, q6, q7},{0, 1},δ,q0,{q7})
where δ is

|     | 0   | 1   | ε   |
| --- | --- | --- | --- |
| q0  | ∅   | q1  | ∅   |
| q1  | q2  | ∅   | ∅   |
| q2  | ∅   | q3  | ∅   |
| q3  | q3  | q3  | q4  |
| q4  | ∅   | q5  | ∅   |
| q5  | q6  | ∅   | ∅   |
| q6  | ∅   | q7  | ∅   |
| q7  | ∅   | ∅   | ∅   |

Question 5



start → 0

States: 0, 10, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100

Transition labels visible: 25, 10, 100, 25,100, 10,25,100

4

Question 5 (with 5c pieces)