Program 1 :

DFA $M = (Q, \Sigma, \delta, q_0, F)$

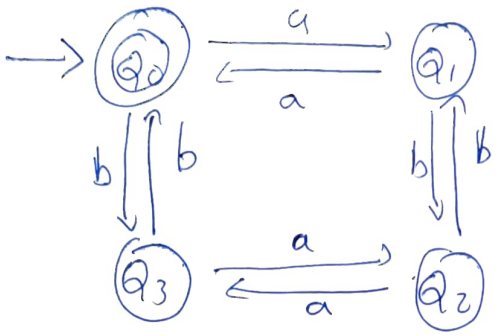
where;

Q = set of all states = $\{q_0, q_1, q_2, q_3\}$

Σ = Input Alphabet = $\{a, b\}$

start state is q_0

F = set of all final states = $\{q_0\}$



Sample Input/output :-

1) aabb
→ string accepted

2) abc
→ Invalid token

3) ababa
→ string not accepted

Program 2 :

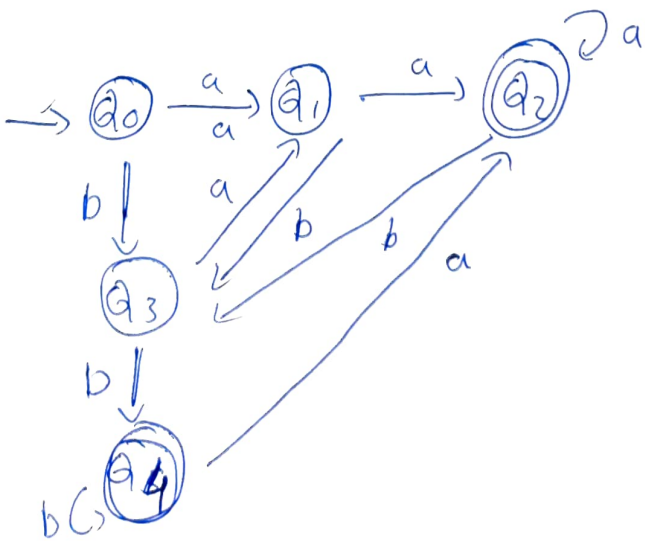
DFA = $(Q, \Sigma, \delta, q_0, F)$

$Q = \{q_0, q_1, q_2, q_3, q_4\}$

$\Sigma = \{a, b\}$

start state = q_0

F = set of all final states = $\{q_2, q_4\}$



sample Input/output :-

1) abb
→ string accepted

2) abab
→ string not accepted

3) aaa
→ Invalid token