TMA1201 Tutorial 09 -
T7 Finite-state Automata

1) Draw the transition diagram of the finite-state automaton $M = (S, \sigma_0, A, I, F)$.
$S = \{\sigma_0, \sigma_1, \sigma_2, \sigma_3\}$, $I = \{a, b, c\}$, $A = \{\sigma_0, \sigma_2\}$

	F		
I / S	a	b	c
σ_0	σ_1	σ_0	σ_2
σ_1	σ_0	σ_3	σ_0
σ_2	σ_3	σ_2	σ_0
σ_3	σ_1	σ_0	σ_1

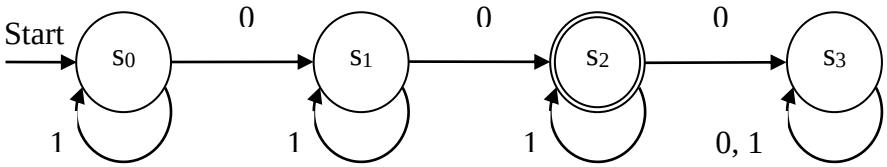
where S, I, σ_0, A and F denote the states of automaton, set of input values, the initial state, accepting states, and state transition function, respectively.

Show the state transitions of the finite state automaton when the string is inputed to it in sequence, starting from the initial state. Then determine whether the input is accepted by the automaton.

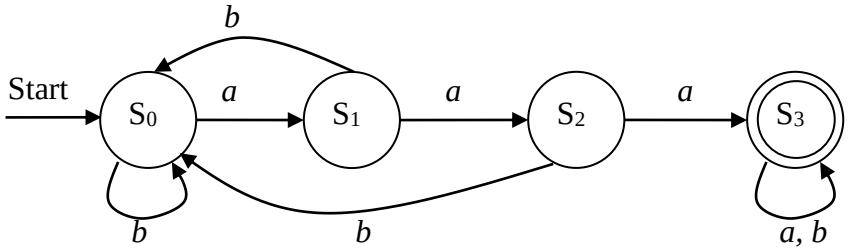
a) *ababb*
b) *aabbccba*

2) Determine the language accepted by the following automaton:

a)



b)



c)