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**Q1**

A finite automaton (FA) is a simple idealized machine used to recognize patterns within input taken from some character set (or alphabet) C. The job of an FA is to accept or reject an input depending on whether the pattern defined by the FA occurs in the input.

A Finite Automata consists of the following :

Q : Finite set of states.

∑ : set of Input Symbols.

q : Initial state.

F : set of Final States.

δ : Transition Function.

Formal specification of machine is  
{ Q, ∑, q, F, δ }.



