Assignment-01

1. Do you agree that "NFA requires more space than DFA". Why or why not.Explain in your own words.

2. Consider the following CFG and answer the questions-
   K→ K+K | K-K | K*K| -K | (K) | a

   Show String **-(a+a)** can be generated by the grammar using leftmost derivation and rightmost derivation and also find out if the above CFG is ambiguous or not.

3. Construct the NFA for the following expression.
   (i) (M | S)* | D+
   (ii) (A*B|C)EF+
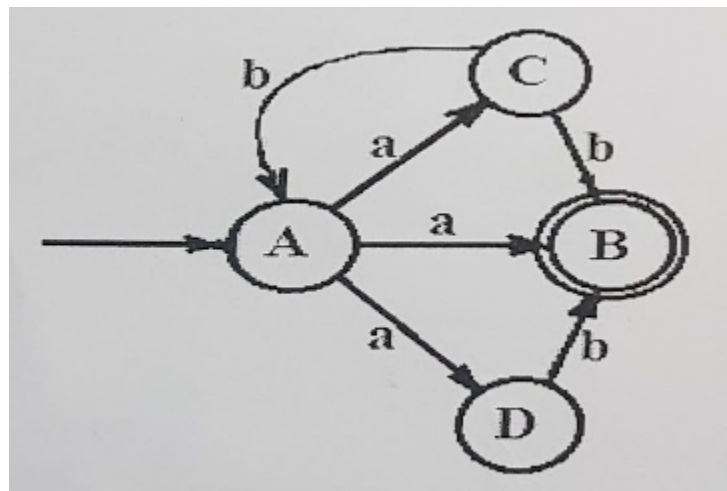   (iii) (P U Q) aba

4. Consider the following diagram-

Figure 01: Finite Automata

Now answer the following questions-
   a. Write down the five tuples of the above fig:01.
   b. Which type of automata is the given fig:01? If it is nfa, then convert it to dfa.