***TOC (Theory of Computation)***

1. Design a Finite Automata (FA) that accepts all strings over S={0, 1} having three consecutive 1's as a substring. Write a program to simulate this FA.

2. Design a Finite Automata (FA) that accepts all strings over S={0, 1} having either exactly two 1's or exactly three 1's, not more nor less. Write a program to simulate this FA.

3. Design a Finite Automata (FA) that accepts language L1, over S={a, b}, comprising of all strings (of length 4 or more) having first two characters same as the last two. Write a program to simulate this FA.

4. Design a Finite Automata (FA) that accepts language L2, over S= {a, b} where L2= a(a+b)\*b. Write a program to simulate this FA.

5. Design a Finite Automata (FA) that accepts language EVEN-EVEN over S={a, b}. Write a program to simulate this FA

6. Write a program to simulate an FA that accepts a. Union of the languages L1 and L2 b. Intersection of the languages L1 and L2 c. Language L1 L2 (concatenation).

7. Design a PDA and write a program for simulating the machine which accepts the language {anbn where n>0, S= {a, b}}.

8. Design a PDA and write a program for simulating the machine which accepts the language {wXwr | w is any string over S={a, b} and wr is reverse of that string and X is a special symbol }.