S.E. Semester IV

Subject: AT

1. Define FA, DFA, NFA, RE.

2. For the following Languages Design a NFA and DFA. Optimize the DFA.

   a) Odd and even binary numbers.

   b) Strings with given prefix and suffix.

   c) Strings with a specific substring.

   d) Strings without specific substring.

   e) Strings with at most, at least, equal to.

   f) Every occurrence of 'xx' is preceded/succeeded by a 'xx' over Σ = {........}

3. Design NFA and DFA for Divisibility by n tester.

4. Verify / Trace whether given strings belong to the language represented by NFA / DFA.

5. Design Moore and Mealy machines. Convert Moore machine to Mealy machine and vice versa.

6. Conversion of NFA with ε-moves to NFA without ε-moves.

7. Design FA as language acceptor or verifier.

8. Conversion of NFA to DFA.

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