CSC 257: Theory Of Computation

Assignment 1

1. Give the formal definition of DFA and NFA. What is the difference between DFA and NFA ? Explain with example.
2. Construct the DFA accepting the following Languages from alphabet {0,1}
    a. Set of all strings starting with 0 and Ending with 11.
    b. Set of all strings with even no of 0's and even no of 1's
    c. Set of all strings with odd no of 0's and even no of 1's
3. Design a DFA that accepts single line and multi-line comments of the C Language.
4. Construct a NFA accepting all strings from {a,b} having substring "bab". Also show that your NFA accepts string "abababb" and rejects string " abaabb" by using extended transition function and using computation tree.
5. Construct a NFA accepting strings { ab,abb,baa} and convert it to equivalent DFA by subset construction Method.

Note the following for Submission of assignment :

1. Assignment should be clearly hand written and should include Subject, Student Name, Roll No. Assignment No. in cover page. Proper decoration for cover page is allowed.
2. Use A4 size paper or loose sheet copy stitched together properly including all question above.
3. Proper margin of 1 inch at top, right and bottom and 1.5 inch at left to be managed in writing sheet.

- **Last day for submission of Assignment 1: June 30, 2025 (Ashad 16, 2082) Monday.**
- **Assignment after last date is not acceptable and not considered for marking.**