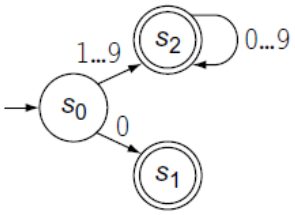
System programming project

General considerations

1- Maximum of 4 students can do the project together.
2- Deliverables are: (1) hardcopy, oral presentation using power point, and the source and executable program.
3- The program must work well regardless the inputs of the program.

Project #1

Write a program that recognizes words given the finite automata (FA). Example, for the input FA



If the word is unsigned integer, the program should display

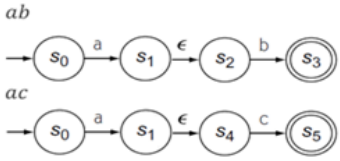
"Valid input"

Otherwise, If It should display

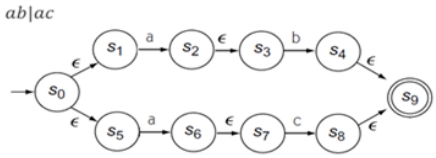
"Invalid input"

Project #2

Write a program to apply the three basic operations alternation, concatenation and closure, to NFAs. Example, for the following input

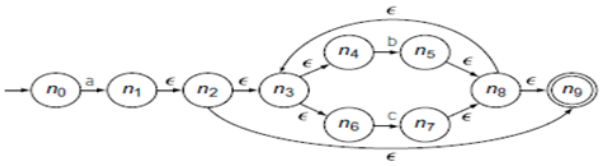


If alternation is applied, the program should display

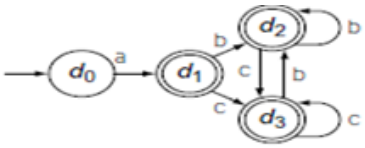


Project #3

Write a program to transform NFA to DFA using subset construction algorithm. Example, for the following input

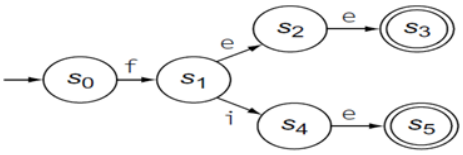


The program should display



Project #4

Write a program to transform DFA to Minimal DFA. Example, for the following input



The program should display