Experiment 3

Aim: a. Write a program to convert NFA with ϵ transition to NFA without ϵ transition

b. Write a program to convert NFA to DFA

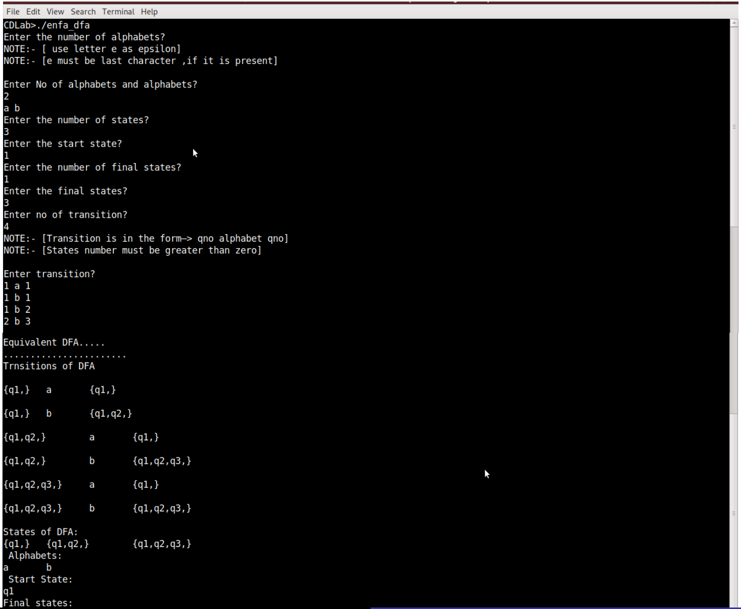
Description

Write a C program which finds the equivalent NFA without ϵ-transitions when an NFA having ϵ transitions is given as input. The program must take the states and transitions of the ϵ-NFA as input.

The second program must find the equivalent DFA, when an NFA is given as input.

Both questions can be combined and a single program which takes the states and transitions of the epsilon NFA as input, converts it into NFA without ϵ-moves, and then again converts the NFA without ϵ-moves to an equivalent DFA and prints its states and transitions.

Sample Output



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CDLab>./enfa_dfa
Enter the number of alphabets?
NOTE:- [ use letter e as epsilon]
NOTE:- [e must be last character ,if it is present]

Enter No of alphabets and alphabets?
2
a b
Enter the number of states?
3
Enter the start state?
1
Enter the number of final states?
1
Enter the final states?
3
Enter no of transition?
4
NOTE:- [Transition is in the form–> qno alphabet qno]
NOTE:- [States number must be greater than zero]

Enter transition?
1 a 1
1 b 1
1 b 2
2 b 3

Equivalent DFA.....
.......................
Trnsitions of DFA

{q1,}   a       {q1,}

{q1,}   b       {q1,q2,}

{q1,q2,}        a       {q1,}

{q1,q2,}        b       {q1,q2,q3,}

{q1,q2,q3,}     a       {q1,}

{q1,q2,q3,}     b       {q1,q2,q3,}

States of DFA:
{q1,}   {q1,q2,}        {q1,q2,q3,}
 Alphabets:
a       b
 Start State:
q1
Final states:
```