NFA-epsilon & DFA Program

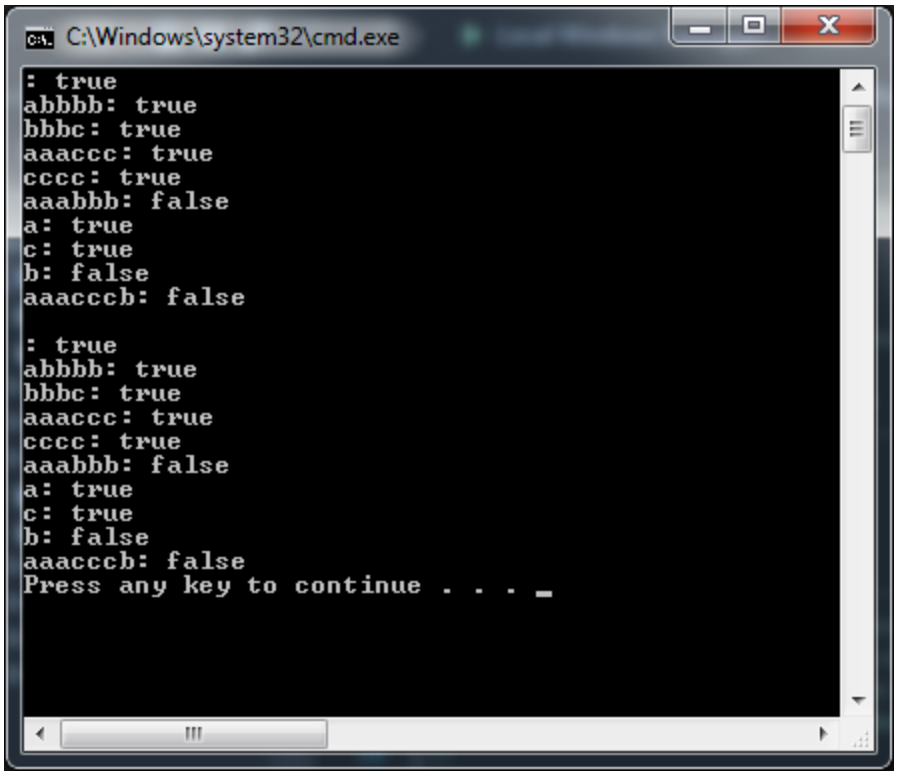
Description: This program takes user data from main() to create a FiniteStateMachine struct, which contains all the nodes, goal nodes, start nodes and transitions for a Finite State Machine. This FiniteStateMachine struct can be passed as a parameter to the CompiledDfa() or CompiledNfaEpsilon() constructors to form that finite state machine into either a DFA or NFA-e, respectively.

The FiniteStateMachine struct can also be passed to the getDfaFromNfa() function, which takes a finite state machine with the properties of an NFA-e and converts it into a DFA, which is then returned.

Each class, CompiledDfa and CompiledNfaEpsilon, has a method called isAcceptedString(), which takes a string as parameter and returns a Boolean indicating whether or not that string is in the accepted language of the DFA/NFA-e.

Output: The sample main initializes a FiniteStateMachine struct and uses it to create an NFA-e, then converts the FiniteStateMachine to create a DFA. isAcceptedString() is then called for the NFA-e, then the DFA using the same string, to make sure the that string is accepted by both, or rejected by both.

Sample Output:



The NFA-e is evaluated first, then the DFA, and you can see the same string produces the same results for both.