COMSATS University Islamabad, Wah Campus

Lab Assignment 1

Department of:	COMPUTER SCIENCE		

Class/Program:	BS(7-A,C,E,D) MCS-1	**Due Date:**	17 March 2022 11:59 AM
Subject:	Compiler Construction	**Instructor:**	Muhammad Nadeem

Note: copying will lead to ZERO
You are required to only submit your source code, titled as your Registration number.

In Lab we have implemented generic FSA, where fsa transitions are defined in fsa.txt and input is defined in input.txt. You are required to update that program to support NFA handling and handling multiple FSA simultaneously .
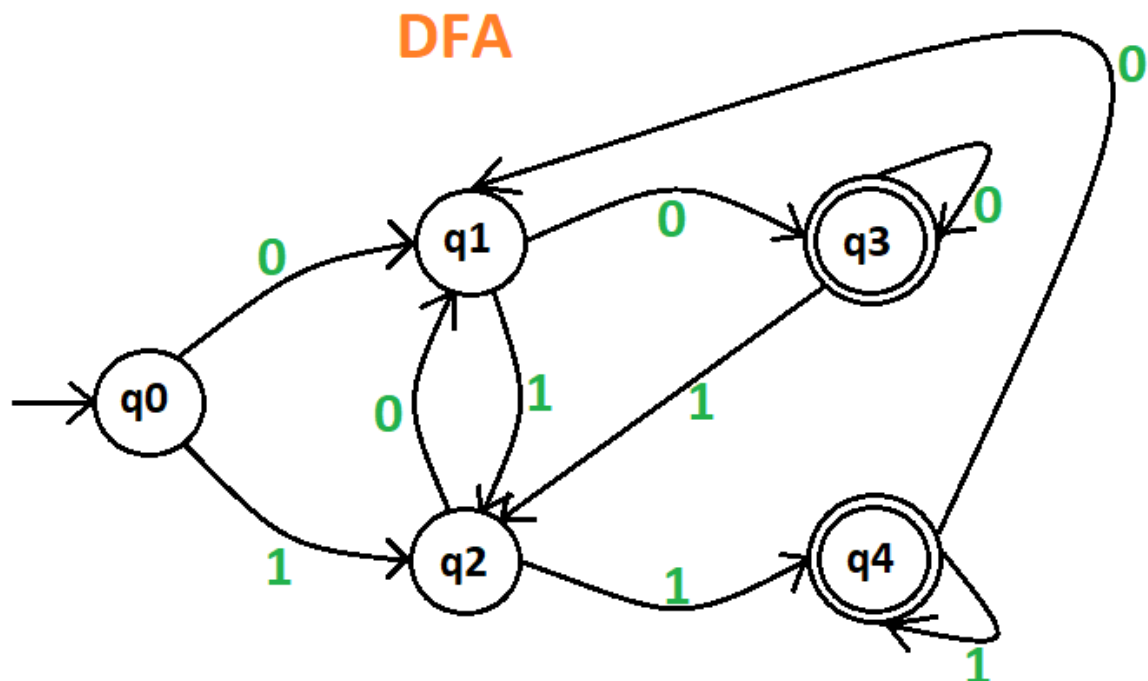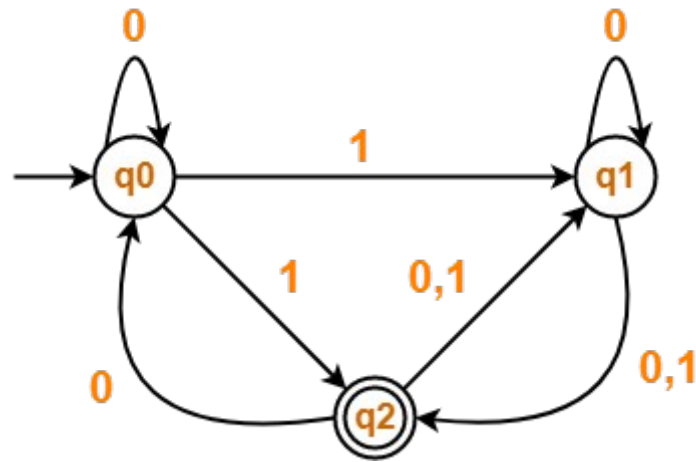
Consider Two FSA above.

You are required to write a python program, that will read FSA's from fsa1.txt (first one) and fsa2.txt (second one). Input will be read from input.txt, where lexemes are separated by space and input is terminated by $.

Your program will process both FSA parallel, with input and will show the current state and input of FSA's by showing proper messages.

For example, consider 011$. output should be like following.

FSA 1 current state = q0
input = 0
Next state FSA1 = q1

FSA 2 current state = q0
Input = 0
Next state FSA2 = q0

FSA 1 current state = q1
input = 1
Next state FSA1 = q2

FSA2 current state = q0
input = 1
Next state FSA 2 = q1,q2

current state FSA1 = q2
input = 1
Next state = q4

Current state FSA2 = q1,q2
Input = 1
Next state FSA2 = q1,q2

String accepted on FSA1
String Accepted on FSA2.

Note: It might be possible, that one FSA get stuck against one input and second input continuing processing, and it also be possible that after processing of one lexeme, one FSA accepts that input and other one denies.