



National University of Computer & Emerging Sciences, Karachi
Spring-2019 Department of Computer Science



Assignment # 1

10th April 2019, 11:00 AM

Course Code: CS302	Course Name: Theory of Automata
Instructor Name / Names: Zeshan Khan	
Student Roll No:	Section: C

Instructions:

- In case of any ambiguity, you may make assumption. But your assumption should not contradict any statement in the question paper.

Deadline: 17-April-2019

Max Marks: 5

Question # 1

Implement Deterministic Finite State Automata (FSA). The code should read the transition table and inputs from files (transition_table.txt,input.txt) and writes its outputs (Accept/Reject) in a file (output.txt).

The format of the files should be as follows:

transition_table.txt

source_state tab transition_label tab destination_state tab is_final

1 a 2 0

1 b 1 0

2 a 2 1

2 b 1 1

The starting state is always state # 1.

input.txt

a

abab

bba

output.txt

Accept

Reject

Accept

Question # 2

Test your code on the languages:

1. Language of all those strings having even a's and even number of b's.
2. Language of all those strings having length multiple of 3.

Submit all 3 files of the both tests

Best of Luck!