Shaheed Zulfikar Ali Bhutto Institute of Science & Technology

COMPUTER SCIENCE DEPARTMENT

Total Marks: 04

Obtained Marks: _____

Finite Automata Theory and Formal Languages

Assignment # 01

Last date of Submission: 3 Oct 2023

Submitted To: Muhammad Nadeem Khokhar

Student Name: _____

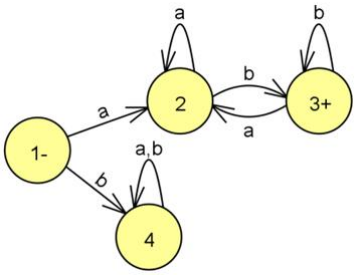
Reg Number: _____

COMPUTER SCIENCE DEPARTMENT

***Instructions**: Copied or shown assignments will be marked zero. Late submissions are not entertained in any case.*

Question

Consider the following transition diagram for a language defined over ∑={a,b} that accepts the strings starting with a and ending in b.



a. Write a C/C++ program that stays in an infinite loop, prompts the user for a string, terminates if the string is QUIT, and otherwise implements the DFA using the scheme that allows state to state function-call and recursion.
b. Give the source code and the runtime screen while testing the strings aabab, bbbaba, bba and abbb.

Note:

1. Change the filename to your ID, e.g. 2073105.doc
2. Upload the .doc on Google Classroom.
3. Do not use system calls.
4. Make sure that the output screen does not have colored/black background.
5. Poor indentation and wrong format will result in deduction of marks.

Solution