

Birla Institute of Technology and Science-Pilani, Hyderabad Campus
Second Semester 2021-2022
Tutorial-4
Course No CS F351
Course Title: Theory of Computation

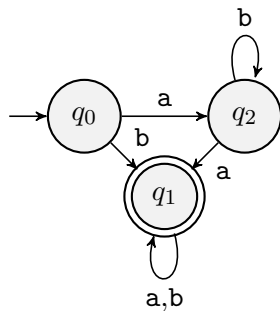
General Instructions: *Argue logically. Write it in a manner that explains your logic very clearly. Do not miss steps in between.*

1. Construct ϵ -NFA for the following regular expression over $\{a, b\}$.

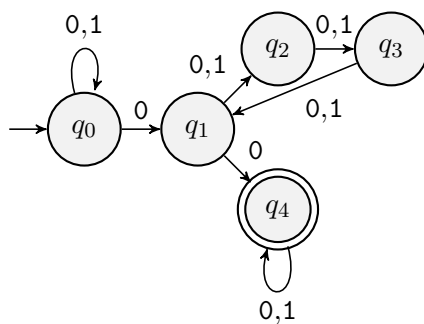
- (a) $(aa^* + aba^*b^*)^*$
 (b) $(ab(a + ab)^*(a + aa))$

2. Find the regular expression corresponding to the following NFAs.

- (a) DFA 1



- (b) DFA 2



3. Find the regular expression for the following languages.

- (a) $L = \{a^n b^m \mid n \geq 4, m \leq 3\}$
 (b) \overline{L} where L is the above language.
 (c) All strings that do not end with aa