

BRAC UNIVERSITY
Merul Badda, Dhaka, Bangladesh
CSE331 : Automata and Computability

Quiz 2
Spring 2024

Duration: 30 minutes

CO2

Total: 20 marks

Name:	ID:	Section:
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NFA

1. Draw the state diagram of the NFA for the following regular language: (5 marks)

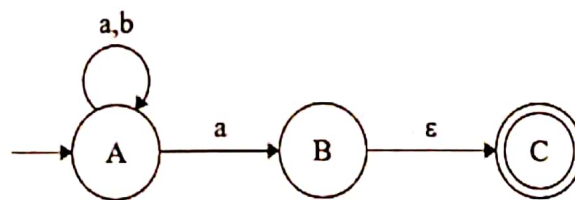
$L(M) \rightarrow \{w \in \Sigma^* \mid w \text{ starts baaab or bab}\}$, where $\Sigma = \{a, b\}$. (Use only 6 states)

Solution:

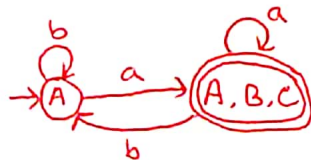


NFA \rightarrow DFA

2. Convert the following NFA into equivalent DFA:



Solution:

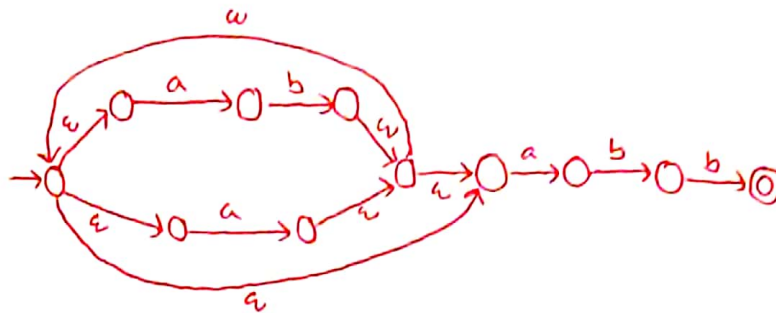


RE \rightarrow NFA

3. Convert the following RE into equivalent NFA:

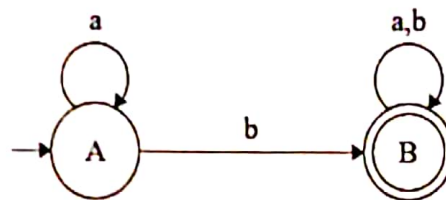
$L(M) \rightarrow (ab \mid a)^*abb$

Solution:



DFA \rightarrow RE

4. Convert the following DFA into equivalent RE:



Solution:

$a^*b(ab)^*$