

NAME _____

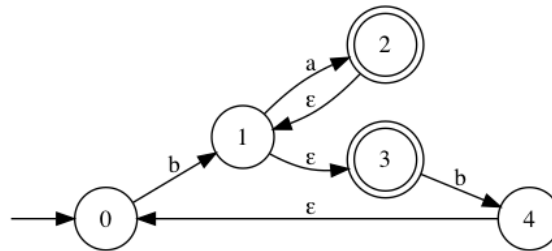
TEACHING ASSISTANT

Kameron Aaron Danny Chris Michael P. Justin Cameron B. Derek Kyle Hasan
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INSTRUCTIONS

- Do not start this quiz until you are told to do so.
- You have 15 minutes for this quiz.
- This is a closed book quiz. No notes or other aids are allowed.
- For partial credit, show all your work and clearly indicate your answers.

1. [4 pts] Circle “Accept” if the NFA accepts the given string. Circle “Reject” otherwise.



- | | | |
|--------------|--------|--------|
| (i) bbb | Accept | Reject |
| (ii) babb | Accept | Reject |
| (iii) babbab | Accept | Reject |
| (iv) bbbba | Accept | Reject |

2. [4 pts] Draw the NFA that accepts all strings over the alphabet $\Sigma = \{a, b\}$ beginning and ending with b.

3. [4 pts] Describe the language accepted by the following CFG.

$$S \rightarrow batU \mid catL$$

$$U \rightarrow man \mid \varepsilon$$

$$L \rightarrow woman \mid \varepsilon$$

4. [8 pts] Create an NFA equivalent to the regular expression $(ab)^* \mid a$