CMSC 330 Fall 2016 Quiz #3

Gradescope ID ☐☐☐☐☐☐ **(First letter of your last name and last 5 digits of your UID)**

(If you write your name on the quiz, or your gradescope ID is not correct, your quiz will NOT be graded)

Discussion Time (circle one)   10am   11am   12noon   1pm   2pm   3pm

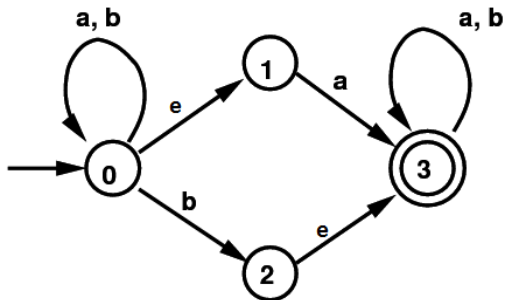**Discussion TA (circle one)**   Alex   Austin   Ayman   Brian   Damien   Daniel K.

                    Daniel P.   Greg   Tammy   Tim   Vitung   Will K.

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.

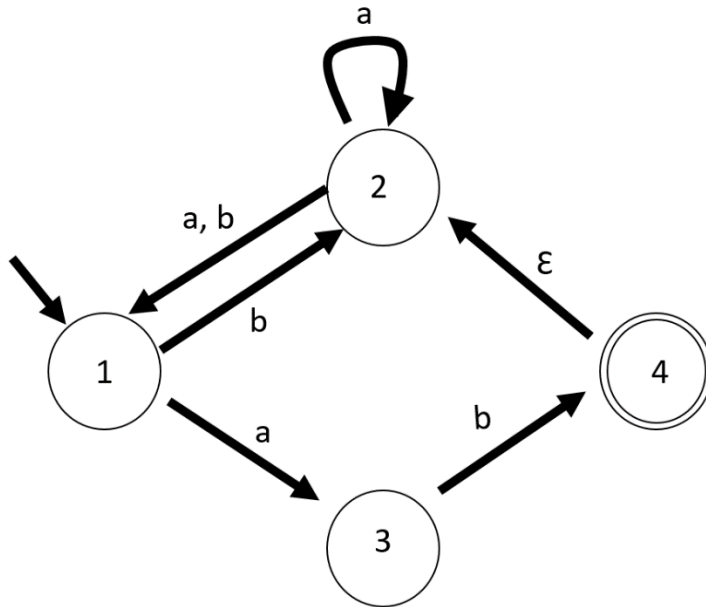- For partial credit, show all of your work and clearly indicate your answers.

1. (4 pts) Write an NFA for (a|b)*(aa|bb).

2. (6 pts) Convert the following NFA to a DFA. Provide proof of your work.

3. (4 pts) For the following NFA:

   Circle "accept" if the following string is accepted

a.	baab	accept
b.	abb	accept
c.	ababab	accept
d.	bbbaaab	accept

4. (6 pts) Given the grammar:

   S -> SaS | T | a

   T -> Tb | bSb | ε

   Provide a **leftmost** derivation of the string "bababb"