CMSC 330 Spring 2017 Quiz #3

Name (as it appears on Gradescope) _____

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

Discussion TA (circle one)   Aaron   Alex   Austin   Ayman   BT   Daniel

Eric   Greg   Jake   JT   Sam   Tal   Vitung

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.

1a. (1 point) Describe the language accepted by the following grammar:

S → S and S | S or S | (S) | True | False

1b. (4 points) Write a left-most derivation of "(True and False) and True"

2. (5 points) Write a grammar for $a^x b^y a^z$, where z = x + y and x, y, z >= 0.

3. (5 points) Reduce the regular expression "a(a|b)*b" to an NFA.

4. (5 points) Reduce the following NFA to a DFA.