CMSC330 Fall 2013 Quiz #2

Name ____________________________

Discussion Time    9am   10am   11am   Noon   1pm
TA Name (circle):  Ilse   Daniel  Casey  Yoav   Ilse
                   Richard Richard Richard

Instructions
• Do not start this test until you are told to do so!
• You have 15 minutes for this quiz.
• This is a closed book exam. No notes or other aids are allowed.
• Answer essay questions concisely in 2-3 sentences. Longer answers are not needed.
• For partial credit, show all of your work and clearly indicate your answers.
• Write neatly. Credit cannot be given for illegible answers.

1. (8 pts) RE to NFA
   Create a NFA for \((a|bc)^*\), using the algorithm discussed in class.
2. (12 pts) Consider the following NFA.

![NFA Diagram]

a. (2 pts) Does the NFA accept the string “bb”? If it accepts the string, list a sequence of state transitions (e.g., 1,2,3) that leads to acceptance of “bb”.

b. (10 pts) Convert the NFA to a DFA using the subset construction algorithm discussed in class. Be sure to label each state in the DFA with the corresponding state(s) in the NFA.