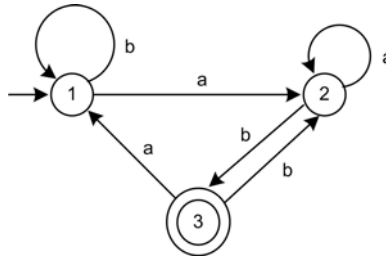


CS 5300
Compiler Construction
 Due September 28, 2005 – 25 points
 Homework 2

You are allowed to work in groups, one or two people, for this assignment. When it is turned in, submit only one copy for the group and include all names on it. The assignment is turned in on the eagle system and you need to use .doc or .txt format.

1. Give a regular expression that describes $L(M)$ where M is defined below:



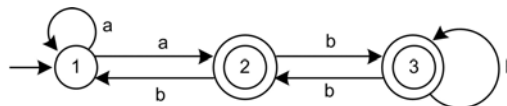
2. For the following regular expressions, show a corresponding nondeterministic finite state machine using the algorithm given in class.

a. $aa(a|b)^+bb$

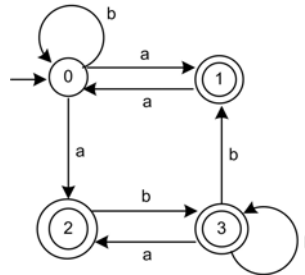
b. $(ab^*a)^*$

3. Consider the NFAs shown below. Using the algorithm given in class, construct the corresponding DFSs.

a.

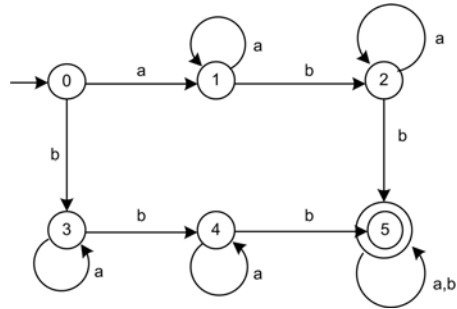


b.



4. Consider the DFAs shown below. Using the algorithm given in class, construct the corresponding minimal DFAs.

a.



b.

