Homework 1

Due Date: April 12, 2006 Points: 100

1. (10 points) Text, §1.12, problem 6.
2. (10 points) The east wing network in the Department of Computer Science is set up so that individual hosts can run web servers and FTP servers that are available to the outside. (Here, “available” means the ability to read and write data.) The hosts can also run email (SMTP) servers available to other hosts on the east wing network, but not available to the outside. Instead, all outside mail is routed to a machine named baton, which forwards it to the internal host.
   a. Please model this using an access control matrix. Use three hosts, baton, eastie for a host on the east wing network, and outie for an outside host.
   b. Write a command that allows eastie to exchange email directly with outie, bypassing baton entirely.
   c. Now consider a second host called reallyeastie on the east wing network. This host has just been added to the network and has no rights initially. Write a command that gives it the ability to send email to outie if, and only if, eastie can send mail to outie.
3. (20 points) Text, §2.8, problem 5.
4. (20 points) Text, §2.8, problem 6.
5. (20 points) Text, §3.9, problem 1.
6. (20 points) Text, §3.9, problem 3.

Extra Credit

1. (30 points) Text, §3.9, problem 2.