Assignment 2: Due October 14 @ 11:59:59PM

- This assignment is to be done in groups of two. You may discuss the assignment with others outside your group and/or in the course newsgroup, but you have to write the code yourself.

- Use the handin command to hand in your assignment electronically. In your home directory make a subdirectory cs405. In ~/cs405 put a subdirectory a2. Put all the files to handin in ~/cs405/a2/. Then issue the command “handin cs405 a2”. You can resubmit until the due date. If you have not submitted by the due date you can still submit, but only once.

- This assignment is worth a total of 100 points.

- For late and other penalties see the course website.

1 (40) Design in pseudo-code a discrete event simulation algorithm for problem 46 chapter 4 in the textbook. Specify the
   1. statespace,
   2. event set,
   3. bootstrapping conditions,
   4. event processing rules.

Use a notation as in the lecture slides. The pseudo-code should be sufficiently clear so that a programmer could implement it without thinking very much about it. Clarification of the problem: Entities that are sent back from D to B then go again to D and then to E; they can’t be sent back to B more than once. Ignore the diagram in the middle of p.143. **Handin your algorithm.**

2 (40) Implement your design using the Java sim package provided. Use your implementation to answer question 46a in the book. You are supposed to report average response time during an 8 hr simulation. Instead of doing 3 replication as the book asks for, do 3000 replication to compute the average. (Don’t report the individual results.) Also estimate the standard deviation and compute the 1% confidence interval for your estimation of the mean response time. **Handin** the average, standard deviation, confidence interval, and your code. Name it P46a.java.

3 (10) Answer question 46b by modifying your code to incorporate this change, running it, and comparing output to what you got under 48a. **Handin your modified code,** called P48b.java, and handin the **results of the simulation**, i.e., average, standard deviation, and confidence interval.
4 (10) Answer question 46c by modifying your code to incorporate this change, running it, and comparing output to what you got under 48a. Hand in your modified code, called P48c.java, and hand in the results of the simulation.

5 Also hand in the coversheet and provide a short readme.txt file for the markers on how to compile and run your code.