15-857/47-774 Homework 8: Capacity Provisioning and Burke's Networks

Homework is due at the *start* of Friday's class. You have a full week. We grade your homework right away, so please don't be late. If you're having problems, please go to office hours. Feel free to collaborate with other students, but you should write up your own solutions. It is good form to list the names of people with whom you collaborate.

These problems are from your textbook, *Performance Modeling and Design of Computer Systems*. Starred problems are either not in your textbook, or have some modifications, given below.

<u>Exercises:</u> **15.3 ; 15.4 ; 15.6 ; 15.7 ; 16.2 ; 16.6 ; 17.1 ; 25.16***

Additional Optional Challenge Problem: 15.10 For those of you who are thinking about research in queueing, I recommend trying this harder problem. This can be done using z-transforms in about 2 pages, or without z-transforms in about 6 pages.

Exercise 25.16*: [M/M/2]
Start by carefully working through p.443 in your book on the M/M/1. This will help.