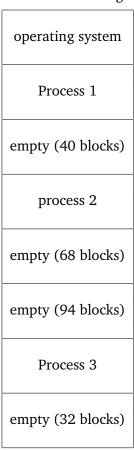# CS 140: Intro to Computer Science, Fall 2011
Homework 8

Due (in class or via email) by 1pm on Friday, Nov. 18, 2011

1. Consider the following table which represents the current state of memory in the computer.

operating system
Process 1
empty (40 blocks)
process 2
empty (68 blocks)
empty (94 blocks)
Process 3
empty (32 blocks)

   (a) If the partitions are fixed and a new job arrives which requires 30 blocks of memory, show memory after the job is placed when using the following partition selection strategies:
      i. First fit
      ii. Best fit
      iii. Worst fit

   (b) If the partitions are dynamic and a new job arrives requiring 30 blocks of memory, show memory after the job is placed when using the following partition selection strategies:
      i. First fit
      ii. Best fit
      iii. Worst fit

2. All of the CPU scheduling algorithms given in the book assume that all jobs arrive together at time 0. In lecture, we did examples where instead the jobs arrived at different times. Below is an example of such a set of jobs.

Job	Arrival Time	Service Time
p1	0	150
p2	0	200
p3	100	10
p4	120	130
p5	140	50
p6	240	40

For each of the following policies, draw a Gantt chart (see pages 350-353 of the text, or the lecture notes, for an example) for the resulting schedule, and compute the average turnaround time for schedule.

  (a) First come first serve

  (b) Shortest job first

  (c) Shortest remaining processing time

  (d) Round Robin with a time slice of 40

3. What are the relative sizes of class A networks, class B networks, and class C networks in IPv4? How many hosts are possible in a class A, class B, and class C network?

4. How does the current domain name system resolve a hostname?

5. What is an IP address? Find the IP address of your own computer. (You may use the internet or talk with me about this one if you're not sure how to do it.)

6. What is a port on a computer, and why are they used?