# MEMORY MANAGEMENT I

This assignment is due on Sunday, November 3rd at 3:00 PM. Post all your answers to the corresponding quiz in *eLearning*. Late assignments will not be accepted. See course syllabus for details on all course policies.

## PROBLEM 1 – 5 POINTS

Consider the following segment table:

| Segment | Base | Length |
|---------|------|--------|
| 0 | 319 | 120 |
| 1 | 2300 | 14 |
| 2 | 90 | 550 |
| 3 | 1127 | 280 |
| 4 | 1952 | 96 |

What are the physical addresses for the following logical addresses? Assume that logical addresses are 4 digits long with the first three digits (reading from right to left) of the address specifying the offset in a segment. If a memory error occurs, write SF for segmentation fault.

a) 1000
b) 110
c) 2500
d) 3400
e) 7112

## PROBLEM 2 – 5 POINTS

Given a contiguous memory allocation scheme with the following free memory partitions, which appear in the order as listed: 200 KB, 400 KB, 600 KB, and 80 KB. How would each of the first-fit, best-fit, and worst-fit algorithms place the four processes, P1 (size = 50 KB), P2 (size = 220 KB), P3 (size = 415 KB), and P4 (size = 300 KB) into memory if they appear in that order. Identify the memory holes in the order they occur after all processes have been served. Compute the total unused space using the corresponding strategy and report the result. Which algorithm utilizes memory best?