

# Operating Systems

## Assignment 4

### (10 Points) Review Questions :

- Individual task
- **Due:** Next section (one night before if you submit by email)

Chapter 4 Exercises (Starting at page 191):

No. 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16

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### (10 Points) Programming Task:

- Group task (max 3 students), The instructor should review within the lab
- **Due:** next section. (email submission is not allowed)

1. Chapter 4 Exercises: (Page 193)

No. 17

2. Using windows threads: Write a multithreaded program that calculates various statistical values for a list of numbers. This program will be passed a series of numbers on the command line and will then create three separate worker threads. One thread will determine the average of the numbers, the second will determine the maximum value, and the third will determine the minimum value. **For example, suppose your program is passed the integers**

90 81 78 95 79 72 85

**The program will report**

The average value is 82

The minimum value is 72

The maximum value is 95

The variables representing the average, minimum, and maximum values will be stored globally. The worker threads will set these values, and the parent thread will output the values once the workers have exited.