# CS111 - Recitation 11

**Exercise 0: Project**
Your peer leader will go over any questions you have about the project.

**Exercise 1: Big O Practice**
- Recall the program you wrote that stored student's' grades in a 2D array. Each column of the array represented a different assignment, and each row represented a different student. The lowest grade was dropped and the remaining grades averaged for the final grade. All students with a 70 and above passed.
    - What is the big O for your program? What is the worst case, and what is the best case?
    - Assume there is a method that calculates the average for a single student. What is the best and worst case? What is the Big O?
    - Assume there is a method that calculates the average for an assignment. What is the best and worst case? What is the Big O?

**Exercise 1: Sequential Search**
- Complete the following method which would return the index of x in a given array using sequential search; if number is not found, return -1:
        public int sequentialSearch(int[] arr, int x)
- Trace the method above for finding the number 2 in [15, 2, 8, 1, 17, 5]
- What is the best case, worst case, and big O?

**Exercise 2: Binary Search**
- What is the algorithm for binary search?
- Trace the method above for finding the number 2 in [1, 2, 5, 8, 15, 17]
- What is the best case, worst case, and big O?

**Exercise 3: Selection Sort**
- What is the algorithm for selection sort?
- Trace selection sort over the following array: [15, 2, 8, 1, 17, 5]
- What is the best case, worst case, and big O?