Written Homework #1
CS 163 Data Structures

Submit your assignment to the D2L Dropbox

Written Homework is expected to be turned in on time!

1. **Create an Algorithm** for the process of how to be successful with this course. Think about what you will need to do this term, in a step by step fashion, to learn the most. Think about when and how you will watch (or attend) lectures. How you plan to work on the weekly labs and readings. Think about how confident you feel about classes, pointers, linear linked lists and recursion and what you will need to do for review.

   Algorithms should be written using complete sentences in a way that is easy to follow – consider using outline form. Think of (a) what you will need to do (read the syllabus…etc.) (b) when you need to do each of these, and then (c) think about how best you learn and what you will need to do to take what is discussed or taught and be able to apply it.

2. **Ethics.** Define the following as they relate the computer ethics (*1-2 sentences each):*
   a. Computer Ethics
   b. Plagiarism
   c. Intellectual Property
   d. Professional Responsibility

3. **Recursion.** By the midterm proficiency demo, we need to be proficient at using recursion with our data structures. Define the following terms as they relate to recursion (*1-2 sentences each):*
   a. Base case
   b. Tail recursion
   c. Create a recursive function that uses tail recursion and show (in comments) the base case and how it achieve the concept of dividing and conquering.

4. **Data Structures.** In Lab #1 you experienced having a tail pointer with a linear linked list. Discuss the implication of having a tail pointer when removing the last node in a LLL. *(Write one paragraph)*

5. **Experiencing Linux.** In CS162, you should have experienced Linux. This term we will use vim in the labs. For this homework, read the "man" (manual) page for vim (type: man vim). *Write about how to (a) copy and paste, (b) search and replace, and (c) undo.*