Written Homework #3
CS 163 Data Structures

Write 1-2 sentences for each question

1. **Table Abstractions**
   a. **Describe** the difference between a list and a table
   b. **Compare and contrast** three collision resolution techniques described by Carrano
   c. **Design a hash function for a table of keywords** (read program #3)
      Remember the hash index must be within the range of a hash table. Assume your table is a prime number, with thousands of data items being entered. Create a hash function to make sure to distribute your data across the hash table. Discuss your approach.

2. **Ethics.** As we work building abstract data types this term (ADTs), we find that we can come in contact with sensitive information that is stored in our data structures. Let's say you were working for a company and it is your responsibility to ensure the safety and security of that information. Create a list of 3 rules that you would expect to be followed by programmers at your company. These must represent *your thoughts about ethical concerns that may arise.*

3. **Linux.** Look into the following tools and experiment with each:
   a. Wall compiler flag – try it out and explain the results found
   b. Grep – what is it and why might we use it