Timothy Lee

1/20/13

CIS 237

Due Date: Sunday, January 27, 2012 at 11:55 PM

* Timothy Lee
* **Assignment 1:** Recursive Sorting, File input/output
* 1/22/13
* **Initial “napkin” design of your system (does not need to match your final design) – could be pseudocode, quick pictures, bullet-point lists, flowchart, etc**
  + Design form with an open button to deal with the openfiledialog
  + Write a class to describe the values to hold within object Item
  + Declare streamreader to read input file
  + Declare array of items to hold values from input file with first line being read into array size
  + Use a while loop to read values into split variables and then into Item array.
  + Implement a quicksort algorithm for both strings and doubles and make each an individual method.
  + Pass Array into the quicksort methods.
  + Print new Sorted Array
* **Brief (1 paragraph/3-4 sentences) description of your solution**
  + In order to keep everything clean and the concepts separate I worked on the assignment in a brand new solution and later re-implemented the code back into my original solution for Assignment 0. The current result is two separate Item classes, one for user input, and one for file input. I figured it would be best to keep them separate until I knew whether or not you wanted the user to be able to update the input file with new information, and then I could merge accordingly. There are two versions of the recursive sort on this assignment, one for the double price, and one for the string name. I tried using IComparable and a few other things to only have one mergesort, and I made good progress, but in the end went with quick and dirty and implemented two quicksort algorithms.
  + This is the original paragraph explaining my solution. I thought we had to implement the class into our original Assignment 0. So I made a solution without all the extra stuff from the first assignment to better display the concepts of this assignment. After I added final totals I had a nasty infinite recursion that got introduced somehow with the final totals and it had to do with my pivot choice. So I fixed that.
* **Any known problems, issues, errors, etc**
  + Currently there are no known issues or bugs messing with the program. A design critique is that it actually feels like two programs with two separate goals smashed into one. One that wants to sort a list of items read from an input file, and one that wants to display a list of items inputted by the user. It would be possible to merge these two ideas together to have a more interesting and powerful program though.
* **List of any outside resources you used to complete your solution**
  + I used MSDN and a few sites that popped up on google to figure out the proper implementation of the quicksort algorithm after having a little trouble.