ECE 370 Programming Assignment 3 Winter 2016
Assigned 2/10/16
Due 2/26/16

Linked Lists

This program is to implement a number of functions on a linked list.

1. Insertion of a node to a linked list, by given criteria
2. Deletion of a node on a linked list, by given criteria
3. Search a node on a linked list, by given criteria
4. Sorting a linked list, by given criteria
5. Visit: print out information (name and score) in each and every node on the linked list, from the first node to the last

Node structure:
Info Field: Name (only one string, for simplicity)
Score (an integer)
Link: a pointer

1. Insertion criteria:
   a. The linked list insertion is based on alphabetical order of the given names.
   b. If a node on the list has the same name as the one that is to be inserted, then the existing one is deleted and the new one is inserted.
2. Deletion criterion
   For a given name, delete that name associated node from the linked list, if it exists.
3. Search criteria:
   a. For a given name, search on the linked list if there is a node that has this name.
   b. If found, print out the node info: Name and Score. One single line for each searched node.
   c. If not found, print out "not found".
   d. The search process cannot change any info or node on the list.
4. Given a criterion, sort the linked in either ascending or descending order.

The program reads from **a3.txt** for actions (insertion, deletion, or search):
%SEARCH, %INSERT, %DELETE, %VISIT, %SORTASC, %SORTDES, %END

The "VISIT" command directs the program to print out information (name and score) in each and every node on the linked list, from the first node to the last.
The "SORTASC" is to sort the list according to the scores, in ascending order.
The "SORTDES" is to sort the list according to the scores, in descending order.
The "END" command ends the program running, but **not closing the window**.

Grading:
1. Complete codes and pass compiler: 3 pts
2. Correct operations: 7 pts