The George Washington University
School of Engineering and Applied Science
Department of Computer Science
CSci 1112 – Algorithms and Data Structures
Spring 2014 Project 3
Due Date: April 22, 2014
Instructor: A. Bellaachia
<u>**Dictionary BST Using Dynamic Linked List**</u>

Description

In this project we would like to implement a dictionary of English words using a binary search tree(BST). You need to use a dynamic linked list and the structure of each node should include the following fields:

- Left Child
- Data Field
- Right Child

The input list of words in included in the attached file. Please note that each line contains a single word. The words are all lower case. You project should implement the following operations:

- Create a dictionary (Using dictionary.txt attached file)
- Count the words in your dictionary: Print the total words in your dictionary
- Lookup an element in the dictionary (Use lookup_test_file.txt attached file to test your lookup operation)
- Print an ordered dictionary(from the smallest to the largest)
- Delete an element from the dictionary (Use delete_test_file.txt attached file to test your delete operation)

Deliverables

1. All code used for implementing you project.
2. Specification and implementation of your program.
3. A file that contains the outputs of your lookup operation:
   Word →True or False
   Output True if the word is in the dictionary, otherwise write False.
4. Print the total number of words in your dictionary.
5. Delete all the words in the "delete_test_file.txt".
6. Print the ordered dictionary in a new file.
7. Print the total number of words in your dictionary (After you have deleted the words in the "delete_test_file.txt" file).