COP 3502 Suggested Program Edits: Dynamic Memory Allocation (Week 1 Programs)

1) Add a function to the file binsearchdyn.c that takes in an array and returns 1 if it's sorted and 0 otherwise. Edit the makeRandSortedArray function and then edit main to check to see if your version of the function returns an array that is sorted.

2) Edit the slmp.c file typed up in class and add a function that generates a sorted array of a given size. Call this function to generate random input for the SLMP problem. Hint: A (somewhat) randomly sorted array can be created by adding a small random offset to the previous value generated.

3) Rewrite slmp_linear.c to work with an input list of strings of lowercase letters. Make sure to properly use all the library functions in string.h.

4) Edit the file dynarrayfunc.c so that you add a function that takes in an integer array, its length, and the maximum value stored in the array (assume the minimum is 0), and returns a dynamically allocated frequency array, where array[i] stores how many times the value i occurred in the original array. Then, print out the contents of this frequency array to make sure that your code work. Test with small numbers.

5) Continue editing dynarrayfunc.c so that another function takes in a frequency array and prints a bar graph. Test this function with small values as well.

6) To either arrayallocation.c or arrayallocation2.c, add a function that takes in the dictionary of words, the number of words in the dictionary, and returns the length of the longest word in the list.