

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) 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.
- 4) 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.
- 5) 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.