**Binary Search Project Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Create 2 new methods in ArrayPlus that implement binary search. One method should be public and have one parameter which will simply call the other method. The second method will be private with three parameters and return the index of the target value. The method should take a sorted ArrayList of Integer objects and search for a given value in the array USING **RECURSION**, then return the index where that value occurs, or return -1 if it is not found. (Note: your binarySearch method should not print out anything) Also, you may copy any relevant methods/constructors from your original ArrayPlus project.

The main class should create an ArrayPlus object of size 20 with random integers [1,100]. Then sort the list (using any method you want) and print out the sorted list.

Next it should prompt the user to enter a value to search for and print out the index where that value occurs or state that “the value was not found in the array.” Your program should continue to prompt the user for an input to search for until they enter some “escape” value. (like -1) Make sure that the directions clearly tell the user what inputs you are looking for and how to end the program, and your output prints the search results in context.