CSE360 Assignment 1

Due Wednesday September 7 6:00PM

This assignment is designed to give you practice in following the style and documentation requirements for the class as well as practice in refactoring and maintaining code.

You are provided the code for OrderedIntList.java (below). In this class, a list is implemented as an array of integer, the insert method is to insert a new value into the array so that the array remains in ascending order and the toString method returns a String with the elements separated by a space.

What you are to do:

1. Create a new package **cse360assign1** on Eclipse.
2. Create a file named **StringList.java** and copy the OrderIntList.java into the file.
3. Modify this new class as follows
   1. the class name must be changed to StringList
   2. the data structure must use an ArrayList rather than the array
   3. the element type must be a String rather than an integer
   4. the insert must allow no duplicates to be inserted
   5. there must be an additional class level boolean variable DEBUG
   6. the code must be instrumented for debugging so that when DEBUG is true, appropriate debug output is displayed. If DEBUG is false, there should be no output displayed.
   7. the code must meet ALL course coding standards.
   8. comments must be added so that ALL documentation standards are met.
4. Test the class thoroughly to make sure that it works as required.
5. Submit the StringList.java file using the link on Blackboard.

What you are NOT to do:

1. Do not just delete all the code and then rewrite it. This is an assignment in maintenance, not creating a new solution. Your solution should reflect the original code.
2. Do not use different data structures other than required in the assignment.
3. Do not add additional class level variables (except for DEBUG) or additional methods.
4. Do not turn in your test file. Your code will be tested against our own test file. Your testing is assumed and not included in the grade.
5. Do not submit a zip file or any other format. Only the .java file will be accepted.

Grading

Documentation standards are met 15

Name and PIN number are identified at beginning of file

Class and methods are documented in Javadoc format

Parameters documented in Javadoc format

Style standards are met (only if code compiles) 20

Data structure changes are made as required (only if code compiles) 10

Code is instrumented as required (only if code compiles) 10

Results are correct 45

package cse360assign1;

public class OrderedIntList {

private int[] a;

private int c;

OrderedIntList ()

{

a = new int[10];

}

public void insert (int v) {

if(c==0)

{a[0]= v;

c++;}

else {

int j = 0;

for (int i= 0; i<c;i++,j++)

if(v<a[i]) break;

for (int i = c; i>j; i--) a[i] = a[i-1];

a[j]= v;

c++;}

}

public String toString () {

String s = "";

for (int i = 0; i<c; )

s+= a[i++]+" ";

return s;

}

public int search (int v) {

for(int p=0;p<c;p++)

if (a[p]==v) return p; return -1;

}

}