# Module 08: Final - Debugging Assignment

In this assignment you will demonstrate your knowledge of debugging by fixing the errors you find in the program below. Fix the code, and paste it in this document, along with a list of the problems you fixed.

This example allows the user to create an ArrayList that contains a list of states. There should be only one entry per state in the list. There is another method to verify the uniqueness of the list.

File TestStoreStrings.java

import java.util.ArrayList;

import stringsCollections.StoreStrings;

public class TestStoreStrings {

public static void main(String[] args) {

ArrayList<> states = new ArrayList<Integer>();

states.add("Virginia");

states.add("New York")

states.add("Michigan");

states.add("Indiana");

states.add("Missouri");

states.add("Indiana");

states.sort(null);

for(String state:states) {

System.out.println(state)

}

if (StoreStrings.duplicateString(states)) {

System.out.println("Error! Contains more than one entry of the same state in the list. Must have only one entry for the state in the list");

}

else {

System.out.println(StoreStrings.count(states));

}

}

}

File StoreStrings:

package stringCollections;

import java.util.ArrayList;

public class StoreStrings {

public static int count(ArrayList <Integer> words) {

int lSize = 1;

for(String i : words) {

lSize++;

}

return lSize;

}

public static boolean duplicateString(ArrayList <String> words) {

boolean isDuplicateString = False;

ArrayList<> items = new ArrayList<String>();

for(String word : words) {

if (items.contains(word)) {

isDuplicateString = False;

}

else {

items.add(word);

}

}

return isDuplicateString;

}

}

**For student to complete:**

CORRECTED CODE:

File TestStoreStrings.java

import java.util.ArrayList;

import stringsCollections.StoreStrings;

public class TestStoreStrings {

public static void main(String[] args) {

ArrayList<String> states = new ArrayList<String>(); // added ArrayList object type String to left side & changed right side assignment from Integer to String

states.add("Virginia");

states.add("New York"); // added semicolon to complete statement

states.add("Michigan");

// states.add("Indiana");

states.add("Missouri");

states.add("Indiana");

states.sort(null);

/\*\* moved the for each loop to the else statement which will now correctly print the outputs whether the list has duplicates or not \*/

if (StoreStrings.duplicateString(states)) {

System.out.println("Error! Contains more than one entry of the same state in the list. Must have only one entry for the state in the list");

} else {

for (String state : states) {

System.out.println(state);

}; // added semicolon to complete statement

// the println method below now has some more information rather than just printing a digit

System.out.println("The number of unique states listed are: " + StoreStrings.count(states));

}

}

}

File StoreStrings.java

package stringsCollections; // corrected package name to stringsCollections

import java.util.ArrayList;

public class StoreStrings {

public static int count(ArrayList <String> words) // corrected this to accept a String type ArrayList as an argument

{

int lSize = 0; // logic error: lSize should start counting from 0

for (String word : words) {

lSize++;

}

return lSize;

}

public static boolean duplicateString(ArrayList <String> words) {

boolean isDuplicateString = false; // False capitalization corrected to false

ArrayList<String> items = new ArrayList<String>(); // ArrayList instance parameter added: "String"

for(String word : words)

{

if (items.contains(word)) {

isDuplicateString = true; // True capitalization corrected to true

}else {

items.add(word);

}

}

return isDuplicateString;

}

}

LIST OF PROBLEMS FIXED:

StoreStrings.java

Line 1 – corrected package name to stringsCollections

Line 6 -corrected this to accept a String type ArrayList as an argument

Line 8 – lSize correctly initialized to 0

Line 18 – False capitalization corrected to false

Line 20 – ArrayList instance parameter added: String

Line 25 – True capitalization corrected to true

TestStoreStrings.java

Line 7 – Added ArrayList object type String to left side & changed right side assignment from Integer to String

Line 9 – Added semicolon to complete statement

Line 17 – moved the for each loop inside of the else block to correctly print the list of states

Line 25 – changed the System.out.println message to be more clear