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

```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;
    }
}
```

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For student to complete:

CORRECTED CODE:

File TestStoreStrings.java

```java
import java.util.ArrayList;
import stringCollections.StoreStrings;

public class TestStoreStrings {
    public static void main(String[] args) {
        ArrayList<String> states = new ArrayList<>();
        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

```java
package stringCollections;
import java.util.ArrayList;

public class StoreStrings {

    public static int count(ArrayList<String> words) {
        return words.size();
    }

    public static boolean duplicateString(ArrayList<String> words) {
        boolean isDuplicating = false;
        ArrayList<String> items = new ArrayList<>();

        for (String word : words) {
            if (items.contains(word)) {
                isDuplicating = true;
            } else {
                items.add(word);
            }
        }

        return isDuplicating;
    }
}
```

LIST OF PROBLEMS FIXED:

1. There is a misspelling/syntax of: package StringCollections;

2. There is a wrong type of variable in parameter count(). Should be String not Integer.

3. The logic for lsize does not work. Instead can be achieved using .size()

4. The boolean value "False" should be "false".

5. ArrayList cannot have empty <>.

6. The logic for checking if it contains the word should set isDuplicating to true instead of false.