BUG FIX PROGRAM:-

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package com.sl.Assignments.PracticeProject;

import java.util.ArrayList;
import java.util.Arrays;
import java.util.Collections;
import java.util.Scanner;

public class BugFix {
        public static void main(String[] args) {
    System.out.println("Hello World!");
    System.out.println("\n**********\n");
    System.out.println("\tWelcome to TheDesk \n");
    System.out.println("**********");
    optionsSelection();

  }
  private static void optionsSelection() {
    String[] arr = {"1. I wish to review my expenditure",
          "2. I wish to add my expenditure",
          "3. I wish to delete my expenditure",
          "4. I wish to sort the expenditures",
          "5. I wish to search for a particular expenditure",
          "6. Close the application"
    };
    int[] arr1 = {1,2,3,4,5,6};
    int  slen = arr1.length;
    for(int i=0; i<slen;i++){
      System.out.println(arr[i]);
      // display the all the Strings mentioned in the String array
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}
ArrayList<Integer> arrlist = new ArrayList<Integer>();
ArrayList<Integer> expenses = new ArrayList<Integer>();
expenses.add(1000);
expenses.add(2300);
expenses.add(45000);
expenses.add(32000);
expenses.add(110);
expenses.addAll(arrlist);
System.out.println("\nEnter your choice:\t");
Scanner sc = new Scanner(System.in);
int  options =  sc.nextInt();
for(int j=1;j<=slen;j++){
   if(options==j){
      switch (options){
         case 1:
            System.out.println("Your saved expenses are listed below: \n");
            System.out.println(expenses+"\n");
            optionsSelection();
            break;
         case 2:
            System.out.println("Enter the value to add your  Expense: \n");
            int value = sc.nextInt();
            expenses.add(value);
            System.out.println("Your value is updated\n");
            expenses.addAll(arrlist);
            System.out.println(expenses+"\n");
            optionsSelection();

            break;
         case 3:
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                System.out.println("You are about the delete all your expenses! \nConfirm again by selecting the same option...\n");
                int con_choice = sc.nextInt();
                if(con_choice==options){
                    expenses.clear();
                  System.out.println(expenses+"\n");
                  System.out.println("All your expenses are erased!\n");
                } else {
                  System.out.println("Oops... try again!");
                }
                optionsSelection();
                break;
            case 4:
                sortExpenses(expenses);
                optionsSelection();
                break;
            case 5:
                searchExpenses(expenses);
                optionsSelection();
                break;
            case 6:
                closeApp();
                break;
            default:
                System.out.println("You have made an invalid choice!");
                break;
        }
    }
  }

}
```

```
    private static void closeApp() {
        System.out.println("Closing your application... \nThank you!");
            }
    private static void searchExpenses(ArrayList<Integer> arrayList) {
        int leng = arrayList.size();
        System.out.println("Enter the expense you need to search:\t");
        //
        Scanner sc = new Scanner(System.in);
        int input = sc.nextInt();
        //Linear Search
        for(int i=0;i<leng;i++) {
            if(arrayList.get(i)==input) {
                    System.out.println("Found the expense " + input + " at " + i + " position");
            }
        }
    }
    private static void sortExpenses(ArrayList<Integer> arrayList) {
        int arrlength =  arrayList.size();
       //Complete the method. The expenses should be sorted in ascending order.

        Collections.sort(arrayList);
        System.out.println("Sorted expenses: ");
        for(Integer i: arrayList) {
            System.out.print(i + " ");
        }

        System.out.println("\n");

    }
}
```