```java
package fix_bugs;

import java.util.ArrayList;
import java.util.NoSuchElementException;
import java.util.Scanner;

public class Fix_Bugs {

    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
        }
        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");
        try (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");

System.out.println(expenses+"\n");
                                optionsSelection();

                                break;
                            case 3:
                                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();
        Scanner sc = new Scanner(System.in);
        try {
            System.out.println("Enter the expense you need to
search:");
            int expense = sc.nextInt();
          boolean found = false;
            for (int i = 0; i < leng; i++) {
                if (arrayList.get(i) == expense) {
                    System.out.println("Expense found at index "
+ i);
                    found = true;
                    break;
                }
            }

            if (!found) {
                System.out.println("Expense not found.");
            }
        } catch (NoSuchElementException e) {
            System.out.println("Invalid input. Please enter a
valid expense.");
        }
    }
    private static void sortExpenses(ArrayList<Integer>
arrayList) {
        int arrlength =  arrayList.size();
        for (int i = 0; i < arrlength - 1; i++) {
            for (int j = 0; j < arrlength - i - 1; j++) {
```

```
                if (arrayList.get(j) > arrayList.get(j + 1)) {
                    // Swap elements at positions j and j + 1
                    int temp = arrayList.get(j);
                    arrayList.set(j, arrayList.get(j + 1));
                    arrayList.set(j + 1, temp);
                }
            }
        }
        System.out.println("Expenses sorted in ascending order:
" + arrayList);
    }
}
```