

SourceCode:

```
1 import java.util.ArrayList;
2 import java.util.Scanner;
3
4 public class BugFix {
5
6     public static void main(String[] args) {
7         System.out.println("Hello World!");
8         System.out.println("\n*****\n");
9         System.out.println("\tWelcome to TheDesk \n");
10        System.out.println("*****");
11        optionsSelection();
12    }
13
14    private static void optionsSelection() {
15        String[] arr = {"1. I wish to review my expenditure",
16                        "2. I wish to add my expenditure",
17                        "3. I wish to delete my expenditure",
18                        "4. I wish to sort the expenditures",
19                        "5. I wish to search for a particular expenditure",
20                        "6. Close the application"};
21    };
22    int[] arr1 = {1,2,3,4,5,6};
23    int slen = arr1.length;
24    for(int i=0; i<slen;i++){
25        System.out.println(arr[i]);
26        // display the all the Strings mentioned in the String array
27    }
28    ArrayList<Integer> arrlist = new ArrayList<Integer>();
29    ArrayList<Integer> expenses = new ArrayList<Integer>();
30    expenses.add(1000);
31    expenses.add(2300);
32    expenses.add(45000);
33    expenses.add(32000);
34    expenses.add(110);
35    expenses.addAll(arrlist);
36    System.out.println("\nEnter your choice:\t");
37    Scanner sc = new Scanner(System.in);
38    int options = sc.nextInt();
39    for(int j=1;j<=slen;j++){
40        if(options==j){
41            switch (options){
42                case 1:
43                    System.out.println("Your saved expenses are listed below: \n");
44                    System.out.println(expenses+"\n");
45                    optionsSelection();
46                    break;
47                case 2:
48                    System.out.println("Enter the value to add your Expense: \n");
49                    int value = sc.nextInt();
50                    expenses.add(value);
51                    System.out.println("Your value is updated\n");
52                    expenses.addAll(arrlist);
53                    System.out.println(expenses+"\n");
54                    optionsSelection();
55
56                    break;
57                case 3:
58                    System.out.println("You are about the delete all your expenses! \nConfirm again by selecting the same option...\n");
```

```

51         System.out.println("Your value is updated\n");
52         expenses.addAll(arrList);
53         System.out.println(expenses+"\n");
54         optionsSelection();
55     }
56     break;
57 case 3:
58     System.out.println("You are about to delete all your expenses! \nConfirm again by selecting the same option...\n");
59     int con_choice = sc.nextInt();
60     if(con_choice==options){
61         expenses.clear();
62         System.out.println(expenses+"\n");
63         System.out.println("All your expenses are erased!\n");
64     } else {
65         System.out.println("Oops... try again!");
66     }
67     optionsSelection();
68     break;
69 case 4:
70     sortExpenses(expenses);
71     optionsSelection();
72     break;
73 case 5:
74     searchExpenses(expenses);
75     optionsSelection();
76     break;
77 case 6:
78     closeApp();
79     break;
80 default:
81     System.out.println("You have made an invalid choice!");
82     break;
83 }
84 }
85 }
86 }
87 }
88 private static void closeApp() {
89     System.out.println("Closing your application... \nThank you!");
90 }
91 private static void searchExpenses(ArrayList<Integer> arrayList) {
92     Scanner sc=new Scanner(System.in);
93     int leng = arrayList.size();
94     System.out.println("Enter the expense you need to search:\t");
95     int exp=sc.nextInt();
96     boolean check = arrayList.contains(exp);
97
98     if (check)
99         System.out.println("The list contains" +exp);
100     else
101         System.out.println("The list does not contains"+exp);
102 }
103 private static void sortExpenses(ArrayList<Integer> arrayList) {
104     int arrlength = arrayList.size();
105     Collections.sort(arrayList);
106     System.out.println("After Sorting: "+ arrayList);
107 }
108 }

```

Output:

```
Problems Javadoc Declaration Console ×
BugFix [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (07-Apr-2022, 3:35:58 pm) [pid: 29072]
Hello World!

*****

Welcome to TheDesk

*****

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

Enter your choice:
2
Enter the value to add your Expense:
4
Your value is updated

[1000, 2300, 45000, 32000, 110, 4]
```