**Fix Bugs of the Application**

**package** Bugs;

**import** java.util.ArrayList;

**import** java.util.Collections;

**import** java.util.Scanner;

**public** **class** ProjectFixing {

**public** **static** **void** main(String[] args) {

System.***out***.println("Hello World!");

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

System.***out***.println("\tWelcome to The Desk \n");

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

ArrayList<Integer> expenses = **new** ArrayList<Integer>();

expenses.add(1000);

expenses.add(2300);

expenses.add(45000);

expenses.add(32000);

expenses.add(110);

*optionsSelection*(expenses);

}

**private** **static** **void** optionsSelection(ArrayList<Integer> expenses) {

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

}

System.***out***.println("\nEnter your choice:\t");

Scanner sc = **new** Scanner(System.***in***);

**int** options = sc.nextInt();

**switch** (options){

**case** 1:

System.***out***.println("Your saved expenses are listed below: \n");

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

*optionsSelection*(expenses);

**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*(expenses);

**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*(expenses);

**break**;

**case** 4:

*sortExpenses*(expenses);

*optionsSelection*(expenses);

**break**;

**case** 5:

*searchExpenses*(expenses);

*optionsSelection*(expenses);

**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) {

Scanner in=**new** Scanner(System.***in***);

**int** leng = arrayList.size();

System.***out***.println("Enter the expense you need to search:\t");

//Complete the method

**int** key=in.nextInt();

**int** found=0;

**int** index=0;

**for**(**int** i=0; i<leng; i++) {

**if**(arrayList.get(i)==key) {

found=1;

index=i;

}

}

**if**(found==1) {

System.***out***.println(key+ " is found at index " +index);

}

}

**private** **static** **void** sortExpenses(ArrayList<Integer> arrayList) {

**int** arrlength = arrayList.size();

//Complete the method. The expenses should be sorted in ascending order.

**for** (**int** i = 0; i < arrlength ; i++) {

**for** (**int** j = arrlength - 1; j > i; j--) {

**if** (arrayList.get(i) > arrayList.get(j)) {

**int** temp = arrayList.get(i);

arrayList.set(i,arrayList.get(j)) ;

arrayList.set(j,temp);

}

}

}

**for** (**int** i: arrayList) {

System.***out***.print(i+ " ");

}

System.***out***.println();

}

}