

Source code:

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package bugfix;

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
        }
        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();
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        expenses.add(value);
        System.out.println("Your value is updated\n");
        expenses.addAll(arrlist);
        System.out.println(expenses+"\n");
        optionsSelection();

        break;
    case 3:
        System.out.println("You are about to 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");
        }
    }
}
}

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}  
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");  
}  
}
```