### **import java.util.ArrayList;**

### **import java.util.Scanner;**

### 

### **public class Main {**

### 

### **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();**

### **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 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) {**

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

### **boolean isPresent = false;**

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

### **int targetExpense = scn.nextInt();**

### **for(int i=0;i<arrayList.size();i++) {**

### **if(arrayList.get(i) == targetExpense) {**

### **System.out.println("The expense you searching is: " + targetExpense);**

### **isPresent = true;**

### **break;**

### **}**

### **}**

### **if(isPresent == false) System.out.println("The expense you searching is not present");**

### **//Complete the method**

### **}**

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

### **System.out.println("Before Sorting");**

### **printArrayList(arrayList);**

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

### **bubbleSort(arrayList);**

### **System.out.println("After Sorting");**

### **printArrayList(arrayList);**

### **}**

### 

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

### **for(int i=0;i<arrayList.size();i++) {**

### **for(int j=0;j<arrayList.size() - i - 1;j++) {**

### **if(arrayList.get(j) > arrayList.get(j + 1)) {**

### **int temp = arrayList.get(j);**

### **arrayList.set(j, arrayList.get(j + 1));**

### **arrayList.set(j + 1, temp);**

### **}**

### **}**

### **}**

### **}**

### 

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

### **for(int i=0;i<arrayList.size();i++) {**

### **System.out.print(arrayList.get(i) + " ");**

### **}**

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

### **}**

### **}**