package com.thedesk;

import java.util.ArrayList;

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

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;

ArrayList<Integer> arrlist = new ArrayList<>();

arrlist.add(1000);

arrlist.add(2300);

arrlist.add(45000);

arrlist.add(32000);

arrlist.add(110);

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(arrlist+"\n");

optionsSelection();

break;

case 2:

System.out.println("Enter the value to add your Expense: \n");

int value = sc.nextInt();

arrlist.add(value);

System.out.println("Your value is updated\n");

System.out.println(arrlist+"\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){

arrlist.clear();

System.out.println(arrlist+"\n");

System.out.println("All your expenses are erased!\n");

} else {

System.out.println("Oops... try again!");

}

optionsSelection();

break;

case 4:

sortExpenses(arrlist);

optionsSelection();

break;

case 5:

searchExpenses(arrlist);

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 searchValue = sc.nextInt();

int low = 0;

int high = leng - 1;

boolean found = false;

while (low <= high) {

int mid = (low + high) / 2;

int midValue = arrayList.get(mid);

if (midValue == searchValue) {

found = true;

break;

} else if (midValue < searchValue) {

low = mid + 1;

} else {

high = mid - 1;

}

}

if (found) {

System.out.println("Expense found: " + searchValue);

} else {

System.out.println("Expense not found.");

}

}

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

int arrLength = arrayList.size();

for (int i = 0; i < arrLength - 1; i++) {

int minIndex = i;

for (int j = i + 1; j < arrLength; j++) {

if (arrayList.get(j) < arrayList.get(minIndex)) {

minIndex = j;

}

}

int temp = arrayList.get(i);

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

arrayList.set(minIndex, temp);

}

System.out.println("Expenses sorted in ascending order: " + arrayList);

}

}