**FIFTH PROJECT: FIX BUGS OF THE APPLICATION**

Source Code:

**package** com.simplilearn.test;

**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();

sc.close();

**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** sortExpenses(ArrayList<Integer> arrayList) {

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

expenses.add(1000);

expenses.add(2300);

expenses.add(45000);

expenses.add(32000);

expenses.add(110);

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

Integer[] arr = **new** Integer[expenses.size()];

arr = expenses.toArray(arr);

System.***out***.println(" List of Expenses to Sort: \n "+expenses);

*bubbleSort*(arr);//sorting array elements using bubble sort

System.***out***.println(" List of Expenses Sorted in Ascending order: \n ");

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

{

System.***out***.print(arr[i] + " ");

}

}

**static** **void** bubbleSort(Integer[] arr)

{

**int** n = arr.length;

**int** temp = 0;

**for**(**int** i=0; i < n; i++)

{

**for**(**int** j=1; j < (n-i); j++)

{

**if**(arr[j-1] > arr[j])

{

//swap elements

temp = arr[j-1];

arr[j-1] = arr[j];

arr[j] = temp;

}

}

}

}

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

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

expenses.add(1000);

expenses.add(2300);

expenses.add(45000);

expenses.add(32000);

expenses.add(110);

Integer[] arr = **new** Integer[expenses.size()];

arr = expenses.toArray(arr);

System.***out***.println(" List of Expenses to Search\n "+expenses);

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

Scanner sc1 = **new** Scanner(System.***in***);

**int** key = sc1.nextInt();

sc1.close();

**int** result = *searchexpenses*(expenses,key);

**if**(result ==-1) {

System.***out***.println("Element not in the list of expenses");

}

**else**

{

System.***out***.println("Element found at " +result+ " and the Searched Expense is "+arr[result] );

}

}

**private** **static** **int** searchexpenses(ArrayList<Integer> arrayList, **int** key) {

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

Integer[] arr = **new** Integer[arrayList.size()];

arr = arrayList.toArray(arr);

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

**if** (arr[i]== key) {

**return** i;

}

}

**return** -1;

}

**private** **static** **void** closeApp() {

System.***out***.println("Closing your application... \nThank you!");

}

}