**Fix Bug – Source Code**

**package** PracticeProject;

**import** java.util.ArrayList;

**import** java.util.Collections;

**import** java.util.Scanner;

**public** **class** fixBug {

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

**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;

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

System.***out***.println(arr[i]);

// display all the Strings mentioned in the String array

}

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

expenses.add(1000);

expenses.add(2300);

expenses.add(45000);

expenses.add(32000);

expenses.add(110);

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

**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");

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!");

System.*exit*(0);

}

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

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

**if** (*sc*.hasNextInt()) {

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

**if** (arrayList.contains(searchValue)) {

System.***out***.println("Expense : " + searchValue +" found at index "+arrayList.indexOf(searchValue));

} **else** {

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

}

} **else** {

System.***out***.println("Invalid input! Please enter a number.");

*sc*.next(); // Consume invalid input

*searchExpenses*(arrayList);

}

}

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

Collections.*sort*(arrayList);

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

}

}