Southern Luzon State University
College of Engineering
Computer Engineering Department

CPE13 Object Oriented Programming

Activity 5: Graphical User Interface (GUI) Basics

Name: REIMARC G. CORPUZ Date: 10 - 21 - 2022

Section: BSCPE 3GF Score:_____

1.1 Introduction

GUIs are potentially very complex entities because they involve a large number of interacting objects and classes. Each onscreen component and window is represented by an object, so a programmer starting out with GUIs must learn many new class, method, and package names. In addition, if the GUI is to perform sophisticated tasks, the objects must interact with each other and call each other's methods, which raises tricky communication and scoping issues. Another factor that makes writing GUIs challenging is that the path of code execution becomes nondeterministic. When a GUI program is running, the user can click any of the buttons and interact with any of the other onscreen components in any order. Because the program's execution is driven by the series of events that occur, we say that programs with GUIs are event-driven.

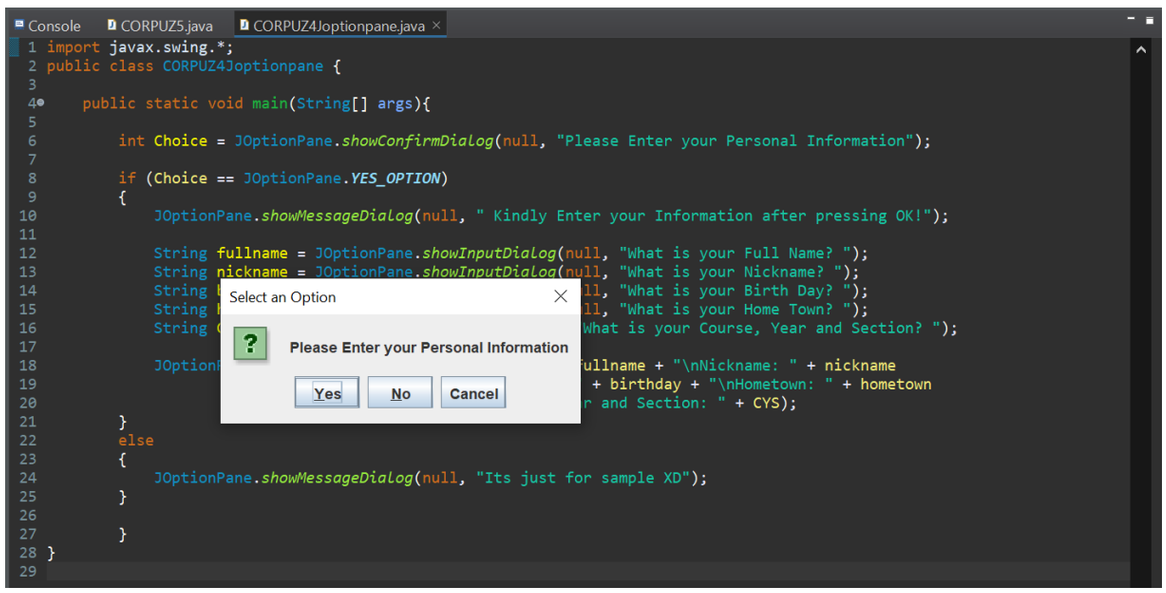
1.2 Objective

- To use Java programming language to create a program that exhibits basic GUI properties
- To conceptualize the process and manipulate the program
- To distinguish different parts of GUI Creation.

Sample Program:

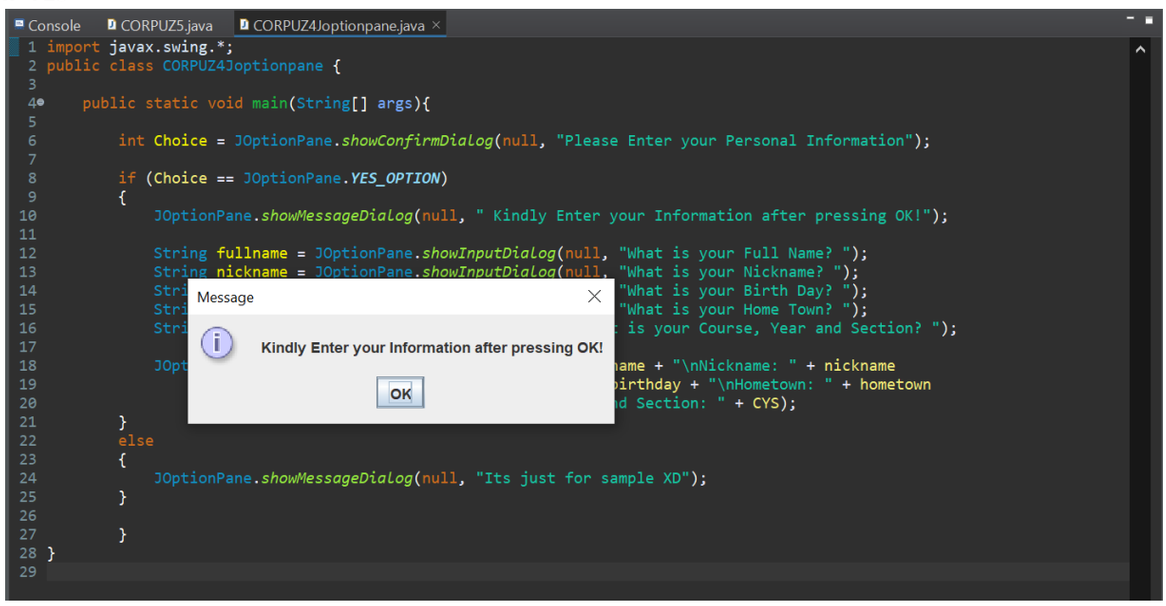
```
import javax.swing.*;

public class GUIActivity5Joptionpane {

public static void main(String[] args){

int Choice = JOptionPane.showConfirmDialog(null, "Please Enter your Personal Information");

if (Choice == JOptionPane.YES_OPTION){
JOptionPane.showMessageDialog(null, " Kindly Enter your Information after pressing OK!");

String fullname = JOptionPane.showInputDialog(null, "What is your Full Name?");
String nickname = JOptionPane.showInputDialog(null, "What is your Nickname?");
String birthday = JOptionPane.showInputDialog(null, "When is your Birth Day?");
String hometown = JOptionPane.showInputDialog(null, "Where is your Home Town?");
String CYS = JOptionPane.showInputDialog(null, "What is your Course, Year and Section");

JOptionPane.showMessageDialog(null, "Name:" + fullname + "\nNickname: " + nickname
                                    + "\nBirthday: " + birthday + "\nHometown: " + hometown
                                    + "\nCourse, Year and Section: "+ CYS);
            } else {
                  JOptionPane.showMessageDialog(null, "Its just for sample XD");
            }
      }

}
```

Output Screenshots: Sample Program (USE PDF FILE FORMAT ONLY)

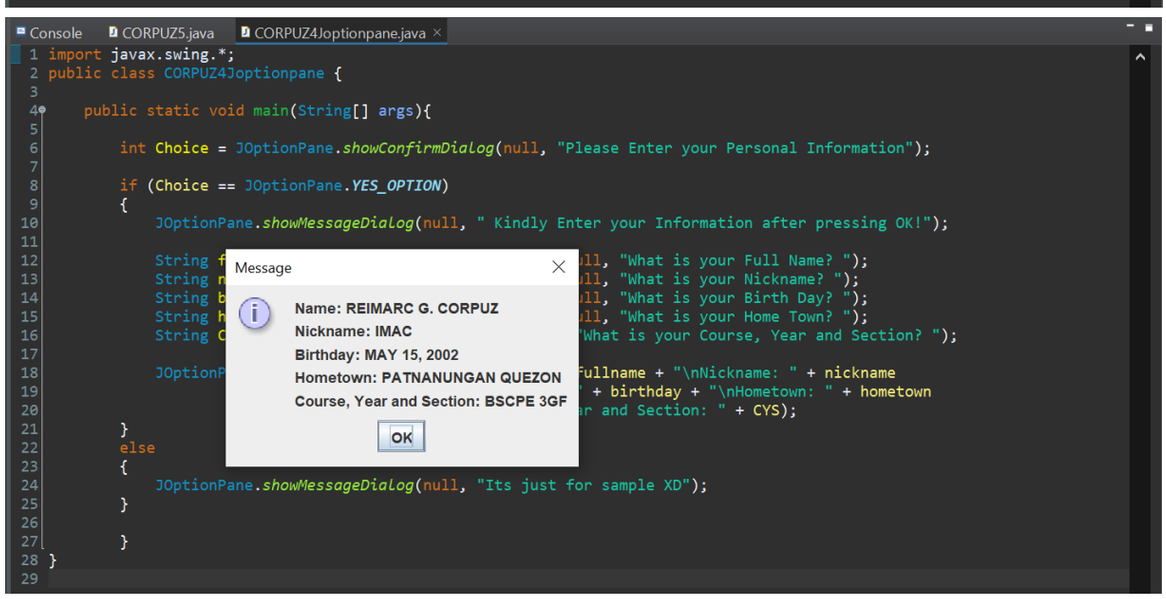



```
import javax.swing.*;
public class CORPUZ4Joptionpane {

    public static void main(String[] args){

        int Choice = JOptionPane.showConfirmDialog(null, "Please Enter your Personal Information");

        if (Choice == JOptionPane.YES_OPTION)
        {
            JOptionPane.showMessageDialog(null, " Kindly Enter your Information after pressing OK!");

            String fullname = JOptionPane.showInputDialog(null, "What is your Full Name? ");
            String nickname = JOptionPane.showInputDialog(null, "What is your Nickname? ");
            String b                                           ll, "What is your Birth Day? ");
            String h                                           ll, "What is your Home Town? ");
            String C                                           What is your Course, Year and Section? ");

            JOptionP                                           ullname + "\nNickname: " + nickname
                                                               + birthday + "\nHometown: " + hometown
                                                               r and Section: " + CYS);
        }
        else
        {
            JOptionPane.showMessageDialog(null, "Its just for sample XD");
        }

        }
}
```

IF YES




```
import javax.swing.*;
public class CORPUZ4Joptionpane {

    public static void main(String[] args){

        int Choice = JOptionPane.showConfirmDialog(null, "Please Enter your Personal Information");

        if (Choice == JOptionPane.YES_OPTION)
        {
            JOptionPane.showMessageDialog(null, " Kindly Enter your Information after pressing OK!");

            String fullname = JOptionPane.showInputDialog(null, "What is your Full Name? ");
            String nickname = JOptionPane.showInputDialog(null, "What is your Nickname? ");
            Stri                                               "What is your Birth Day? ");
            Stri                                               "What is your Home Town? ");
            Stri                                               is your Course, Year and Section? ");

            JOpt                                               ame + "\nNickname: " + nickname
                                                               irthday + "\nHometown: " + hometown
                                                               d Section: " + CYS);
        }
        else
        {
            JOptionPane.showMessageDialog(null, "Its just for sample XD");
        }

        }
}
```




```
import javax.swing.*;
public class CORPUZ4Joptionpane {

    public static void main(String[] args){

        int Choice = JOptionPane.showConfirmDialog(null, "Please Enter your Personal Information");

        if (Choice == JOptionPane.YES_OPTION)
        {
            JOptionPane.showMessageDialog(null, " Kindly Enter your Information after pressing OK!");

            String f                                           ll, "What is your Full Name? ");
            String n                                           ll, "What is your Nickname? ");
            String b                                           ll, "What is your Birth Day? ");
            String h                                           ll, "What is your Home Town? ");
            String C                                           What is your Course, Year and Section? ");

            JOptionP                                           ullname + "\nNickname: " + nickname
                                                               + birthday + "\nHometown: " + hometown
                                                               r and Section: " + CYS);
        }
        else
        {
            JOptionPane.showMessageDialog(null, "Its just for sample XD");
        }

        }
}
```

IF NO

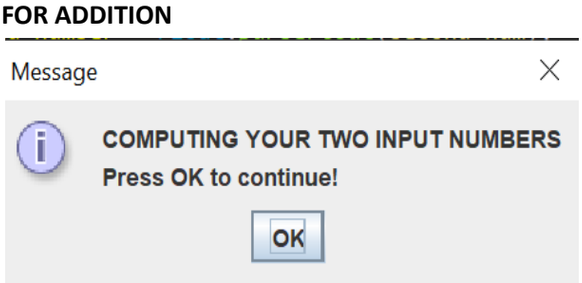
```
Console   CORPUZ5.java   CORPUZ4Joptionpane.java
1 import javax.swing.*;
2 public class CORPUZ4Joptionpane {
3
4     public static void main(String[] args){
5
6         int Choice = JOptionPane.showConfirmDialog(null, "Please Enter your Personal Information");
7
8         if (Choice == JOptionPane.YES_OPTION)
9         {
10            JOptionPane.showMessageDialog(null, " Kindly Enter your Information after pressing OK!");
11
12            String fullname = JOptionPane.showInputDialog(null, "What is your Full Name? ");
13            String nickname = JOptionPane.showInputDialog(null, "What is your Nickname? ");
14            String bir                                        null, "What is your Birth Day? ");
15            String hom                                        null, "What is your Home Town? ");
16            String CYS                                        "What is your Course, Year and Section? ");
17
18            JOptionPar                                    fullname + "\nNickname: " + nickname
19                                                              " + birthday + "\nHometown: " + hometown
20                                                          Year and Section: " + CYS);
21        }
22        else
23        {
24            JOptionPane.showMessageDialog(null, "Its just for sample XD");
25        }
26
27        }
28 }
29
```

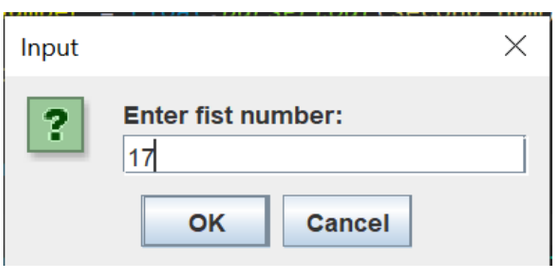
Message

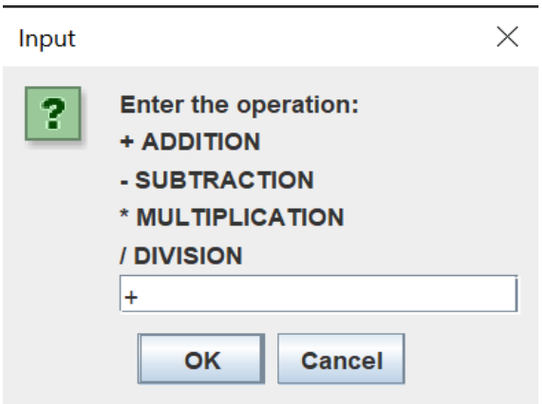
Its just for sample XD

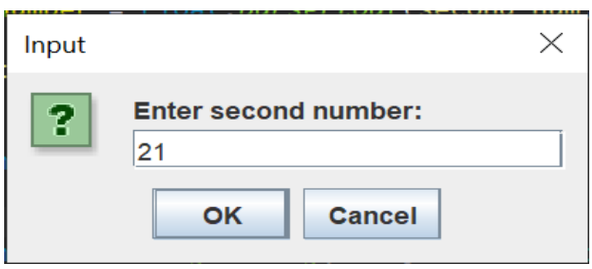
OK

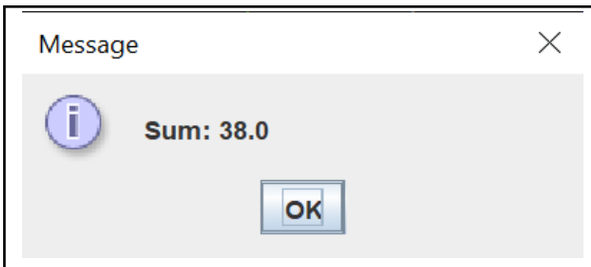
Output Screenshots: Problem
FOR ADDITION



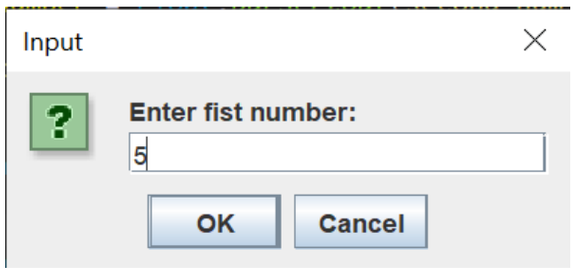


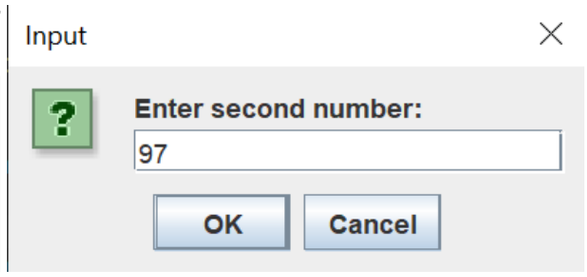


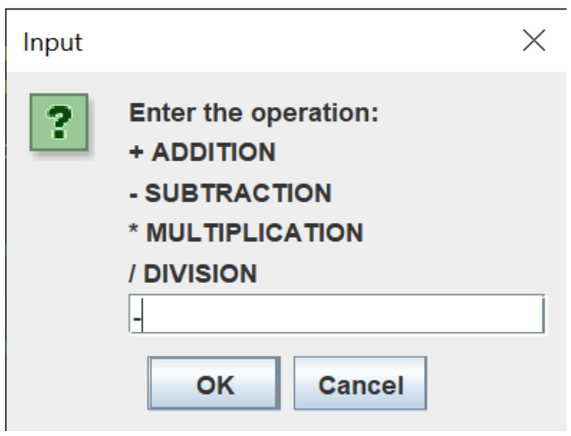


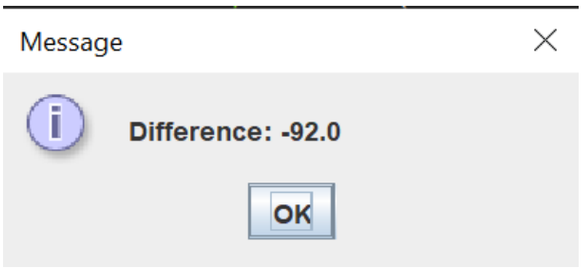


FOR SUBTRACTION

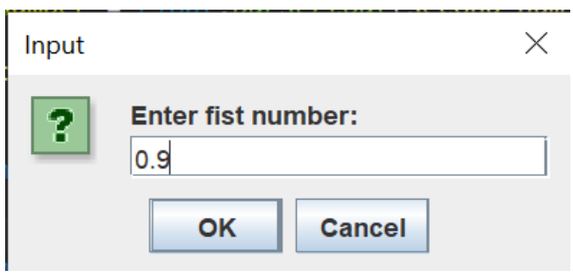


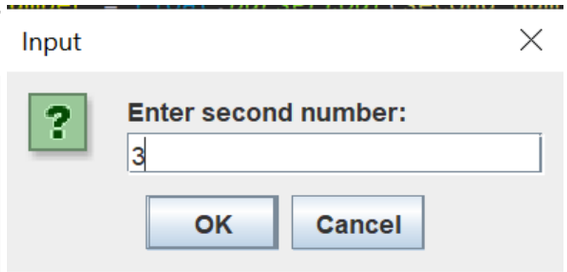


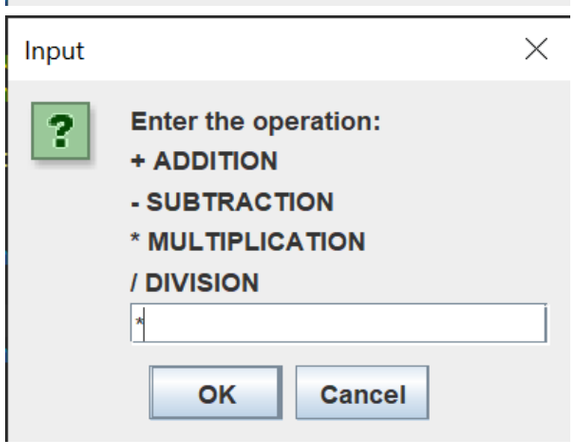


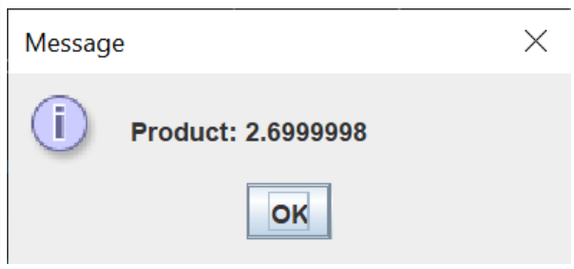


FOR MULTIPLICATION

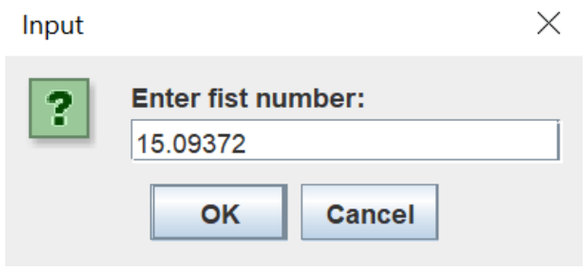


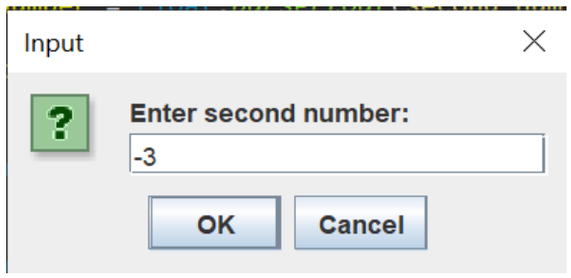


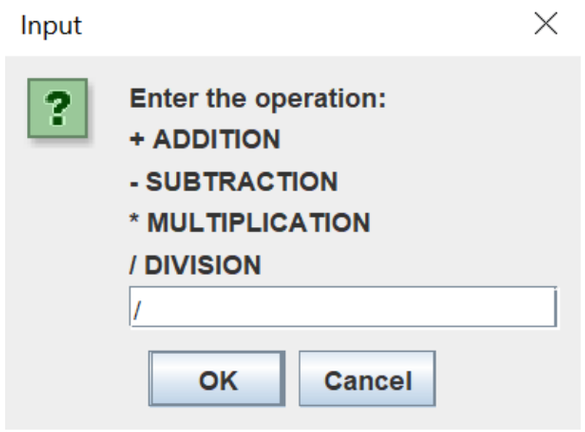


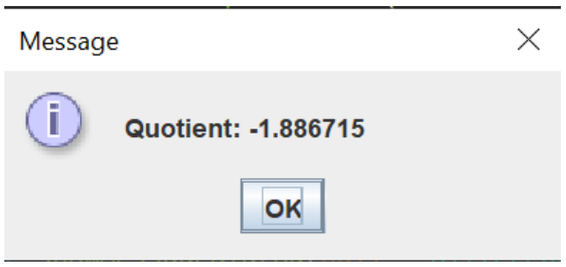


FOR DIVISION

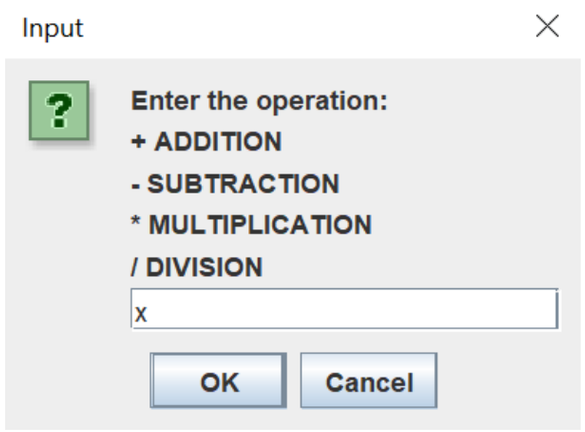


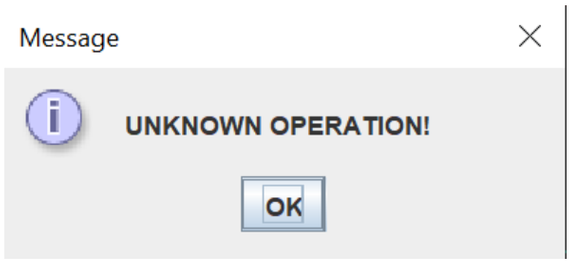






FOR WRONG INPUT OPERATION





1.3 Problem:

Write a program that will ask the user two numbers and ask for what arithmetic operation will he/she want to perform. Output message of the Operation.

1.4 Follow up Questions:

1. What are the different Methods of JOptionPane Classes?

The different method of JOptionPane Classes that I used are MessageDialog and InputDialog.

2. What are the function of each Method in #1?

For JOptionPane.showMessageDialog it serves as an instruction of the program or what the program is going to do. It can also call or get the input data of the user. While, in JOptionPane.showInput-Dialog, it will ask the user to input a data from the keyboard.

3. How can you relate this activity to a database system?

By doing this method it is related to the database system because I am storing data in a memory location. And for some uses of that data I can call it by the MessageDialog. Also, since the user is not going to input in the console and it is like created by the html (tab form).

1.5 Conclusion

After learning and exploring the method of JOption-Pane aside from its apperance, I concluded that this method only accepts String input data. Even a data type number is in a String form. But to call it as a number, I can call the variable name of the input data from InputDialog then convert it in any kind of data type like integer, float, or double by the use of "parse" (parseFloat). To display or to use that data I can use the MessageDialog, but the variable name that I am going to call is the variable name that I used in the parse method not in the InputDialog. The String form of data cannot be used as an operand.

When it comes to how the user used the system instead of clicking OK, you can press ENTER and it will display the next tab. But, if the user change the tab (eclipse to chrome) without finishing the what is asked in program it will restart and your gonna input data from the start.

Code of the Program:

```
import javax.swing.*;

public class CORPUZ5 {

		public static void main (String[] args){

		JOptionPane.showMessageDialog(null, "COMPUTING
YOUR TWO INPUT NUMBERS\nPress OK to continue!");

				String first_num =
JOptionPane.showInputDialog(null, "Enter fist number: ");

				String second_num =
JOptionPane.showInputDialog(null, "Enter second number: ");

				String operation =
JOptionPane.showInputDialog(null, "Enter the operation: \n+
ADDITION\n- SUBTRACTION\n* MULTIPLICATION\n/ DIVISION");

				float first_number =
Float.parseFloat(first_num);

				float second_number =
Float.parseFloat(second_num);

				switch (operation){

				case
"+":JOptionPane.showMessageDialog(null, "Sum: " + (first_number +
second_number));break;

				case
"-":JOptionPane.showMessageDialog(null, "Difference: " +
(first_number - second_number));break;

				case
"*":JOptionPane.showMessageDialog(null, "Product: " +
(first_number * second_number));break;

				case
"/":JOptionPane.showMessageDialog(null, "Quotient: " +
(first_number / second_number));break;

				default:JOptionPane.showMessageDialog(null,
"UNKNOWN OPERATION!");

}}}
```