PSLG Week 02

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ICTLC Online QR Code:

DLSH

Git-Hub Link

📙 Today's Agenda 📙

- Scanner refresher from last week.
- JOption pane.
    - Like scanner but opens gui screen instead of text print outs on terminal.

Scanner

- Scanner is a user or keyboard input.

Syntax:

- Scanner name = new Scanner(System.in);
  - new Scanner creates scanner object in memory
  - System.in is a connection between the scanner object and the keyboard.

Problem 1

Create a class called Problem1 that takes 5 user inputs using scanner of numerical grade values (80.5, 78 etc). The system has to 1. Print the total marks, 2. Find the average grade of those grades and 3. Find the letter grade corresponding with the average grade and output the total marks, the average grade, and the letter grade to the command line.

Solution 1 Pt 1

```java
import java.util.Scanner;

public class GradingScanner {
    public static void main(String[] args) {
        Scanner userInput = new Scanner(System.in);

        System.out.println("Please enter your grades for this semester: ");
        System.out.println("Grade 1: ");
        double grade1 = userInput.nextDouble();

        System.out.println("Grade 2: ");
        double grade2 = userInput.nextDouble();

        System.out.println("Grade 3: ");
        double grade3 = userInput.nextDouble();

        System.out.println("Grade 4: ");
        double grade4 = userInput.nextDouble();

        System.out.println("Grade 5: ");
        double grade5 = userInput.nextDouble();

        double totalMarks = grade1 + grade2 + grade3 + grade4 + grade5;
        double avgMarks = totalMarks / 5;
```

Solution 1 Pt 2

```java
String letterGrade;
if(avgMarks >= 90){
    letterGrade ="A";
}else if (avgMarks <= 89 && avgMarks >= 75) {
    letterGrade = "B";
}else if (avgMarks <= 74 && avgMarks >= 55) {
    letterGrade = "C";
}else if (avgMarks <= 54 && avgMarks >= 40) {
    letterGrade = "D";
}else if(avgMarks <= 39 && avgMarks >= 20){
    letterGrade = "E";
}else{
    letterGrade = "F";
}

System.out.println("Total marks are: " + totalMarks);
System.out.println("Average marking is: " + avgMarks);
System.out.println("Letter grade is: " + letterGrade);
}
}
```

💻 **JOptionpane** 💻

So, Remember scanner from our first problem. Scanner worked off a 'call and response' type system where:

- the terminal would print out a prompt (the call)
- and the user would type a response (the response)

JOptionPane works virtually the same except instead of using a terminal prompt we create a screen in which the use can enter their response!

💻 **JOptionpane** 💻

Syntax 📇 :

String name = JOptionPane.showInputDialog(Prompt);

// Creates the input window

JOptionPane.showMessageDialog(null, response);

// Displays response on new screen

💻 JOptionpane Problem 💻

Create a new class in your IDE called problem 2.

In this class Create a JOptionPane input box and ask the user to enter there name.

Upon successful name entry, Display "Hello!" + the name entered in a dialog box.

If no name is entered, display a message saying thus.

NOTE: import javax.swing.JOptionPane;

✅ Solution 2 ✅

```java
public class Problem2
{
    public static void main(String[] args)
    {
        // Create the input dialog box
        String input = JOptionPane.showInputDialog("Please enter your name :");

        // Check if a name has been entered
        if(input.length()>0){
            JOptionPane.showMessageDialog( parentComponent: null, message: "Hello " + input + " !");
        }else{
            JOptionPane.showMessageDialog( parentComponent: null, message: "You didn't enter a name ");
        }

    }
}
```

💻 Other JOptionPane Boxes 💻

Before we move onto our final problem I feel like teaching you guys more than just entering an input on JOptionPane may be useful.

So other fun form of Interactive user input you can do is Buttons in the form of ConfirmDialog options

These dialog options can be filled with buttons such as yes, no or cancel and can be useful for making simple user applications.

💻 Other JOptionPane Boxes 💻

Syntax 📇 :

int choice = JOptionPane.showConfirmDialog(null,prompt,JOptionPane.YES_NO_CANCEL_OPTION);

// Creates a confirm option dialog box

if(choice == JOptionPane.YES_OPTION) {

    do x

}

// Deals with specific options

😈 Final Problem 😈

Create a class called problem 3.

Create a User login creation application.

The User will first enter a username and then will enter a password.

They will be asked to confirm the password by retyping it in and clicking yes on a confirm dialog box.

if the passwords match a successful display message will be shown, otherwise a failure message will be shown

✅ Solution ✅

```java
 5  public class Problem3
 6  {
 7      public static void main(String[] args)
 8      {
 9          String username = JOptionPane.showInputDialog("Username :");
10          String password = JOptionPane.showInputDialog("Password : ");
11          String retypeP = JOptionPane.showInputDialog("Re-type Password : ");
12          int choice = JOptionPane.showConfirmDialog( parentComponent: null, message: "Are  you happy with your choi
13
14          if(choice == JOptionPane.YES_OPTION){
15              if(password.equals(retypeP)){
16                  JOptionPane.showMessageDialog( parentComponent: null, message: "Passwords match: Account made");
17              }else
18              {
19                  JOptionPane.showMessageDialog( parentComponent: null, message: "Passwords don't match :Account cre
20              }
21          }else{
22              JOptionPane.showMessageDialog( parentComponent: null, message: "Account creation aborted!");
23          }
24
25      }
26  }
```