Lab 5: I/O and More Java

Objectives

- Implementing basic Java codes
- Reading java documentation
- Using classes and methods for input and output

Implement

1. No methods required. Please write all code inside the main method of the class StudentIO. You will ask the user number of students to be processed. Then for each student ask the student's age, gpa, id, year and the number of credits he/she enrolled for this semester. Then you will write a small report about each student. Use *Scanner* class for reading input. *Scanner* class can be used by importing *java.util.Scanner*. You may refer to Scanner documentation: https://docs.oracle.com/en/java/javase/11/docs/api/java.base/java/util/Scanner.html

Scanner Examples:

```
Scanner sc = new Scanner(System.in);

System.out.println("Enter an integer: ");

int i = sc.nextInt();

System.out.println("Enter a float: ");

int i = sc.nextFloat();
```

Example run:

```
Number of students: 2

ID:
12
Age:
21
Year:
2
GPA:
2.4
#Credits taken:
27
Total #Credits:
40

ID: 12
Age: 21
Year: 2
#Credits enrolled: 27
Total #credits required: 40
GPA: 2.4
#Credits remaining: 13
1 completed.


ID:
222
Age:
```

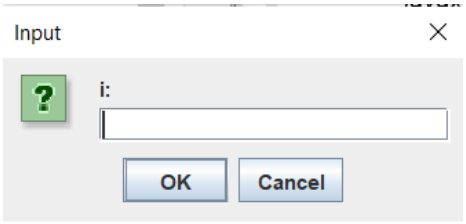
```
24
Year:
3
GPA:
3.1
#Credits taken:
29
Total #Credits:
40

ID: 222
Age: 24
Year: 3
#Credits enrolled: 29
Total #credits required: 40
GPA: 3.1
#Credits remaining: 11
2 completed.


Report completed. Bye...
```

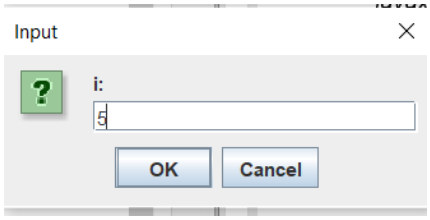
2. Java provides dialog boxes for input/output purposes. Use *JOptionPane* class under *javax.swing*. *JOptionPane* has methods *showInputDialog* and *showMessageDialog*. Repeat the first question without using *System.out.print(ln)* and *Scanner.* You can refer to JOptionPane documentation:

   https://docs.oracle.com/en/java/javase/11/docs/api/java.desktop/javax/swing/JOptionPane.html
   First import *javax.swing.* Use *showInputDialog* method to read input. It returns a String so convert this *String* to *int* or *float* by using *Integer.parseInt or Float.parseFloat*. Use *showMessageDialog* method to show the output. First create the output String and use it as a parameter for this method.

   Examples:

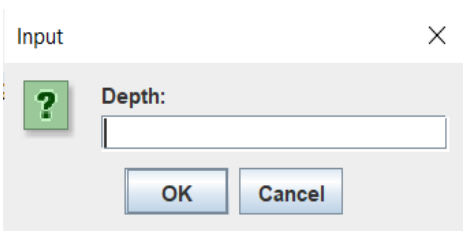
   ```
   int i = Integer.parseInt(JOptionPane.showInputDialog("i: "));
   ```

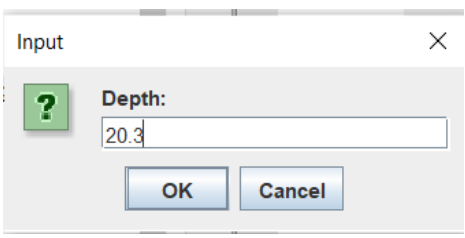




   After you enter 5 and press enter i will be assigned 5.

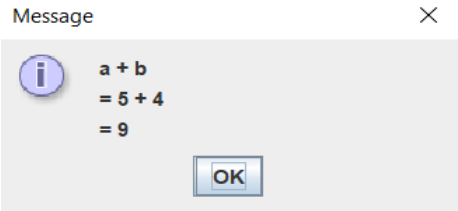
   ```
   float depth = Float.parseFloat(JOptionPane.showInputDialog("Depth: "));
   ```





After you enter 20.3 and press enter depth will be assigned 20.3F.

```
int a = 5;
int b = 4;
String show = "a + b \n= " + a + " + " + b + "\n= " + (a + b);

JOptionPane.showMessageDialog(null, show);
```



How to turn in this lab

Before turning in any program in this class, remember this mantra:

Just because it works does not mean it's good.

Your grade will also come from the following aspects of your code:

- Submission
- Accuracy/correctness
- Readability
- Neatness
- Presentation
- Style
- Testing
- Commenting

For all labs, turn in only an **electronic** version.
Please submit the followings after all labs:

- zip file of your project (the project folder, not just the .java file(s)): zip file name will be your **YourFirstNameLastNameLab5.zip**
- a single pdf file of all your codes (.java), screenshots of your output for each file, answers of the discussion question: pdf file name will be **YourFirstNameLastNameLab5.pdf**

Submit

- **the zip and pdf files**
- after Monday Lab session until Wednesday 8 AM EST
- from the Nexus Lab submission link that will be accessible in Week 2-10

Ask for help if you are having problems!