

Java Lab 3

Due: Friday, September 8, 11:00 AM EDT

In this lab, you will practice with simple input and output and if/switch statements.

1. Create a project named Lab3. Download the file `IOStuff.java` from Canvas and copy it to the `src` directory. Run the program; enter some sample data when prompted. Then run the program again. See if you can break the program by entering bad values – which input lines can you break?

2. Change the line that reads in the age to the following: create a String variable named `ageString`; read the age into it using `nextLine()` instead of using `age` and `nextInt()`; convert the String to an int using `Integer.parseInt()` and store it in `age`. Do something similar with the line that enters the salary: create a String variable named `salaryString`; read it using `nextLine()` instead of `nextDouble()`; convert the String to a double using `Double.parseDouble()`. Can you break this by entering bad values?

3. Surround the code for #2 with this:

```
try {
    <your code from #2 goes here>
} catch (NumberFormatException e) {
    System.out.println(e);
    age = 0;
    salary = 0.0;
}
```

Can you break this?

4. Comment out the `println` statements that display the output by highlighting those lines, then use the IntelliJ menu choice

Code->Comment with Block Comment

Add one `printf()` statement to display the labels (column headers) and another `printf()` statement to display the data as a (very short) table, with nicely spaced columns, something like this:

First Name	Last Name	ID	Age	Salary
John	Smith	147A	27	58500.00

5. First, comment out the code that prompts the user to enter employee data at the keyboard, down through and including the answer to #3. Keep the table headers of #4 but comment out the line that prints the employee data (you'll be doing it over below).

Now download the file "employee.csv" from Canvas. Copy it into the project directory (the root Lab3 directory, **not** the `src` folder). Open it in IntelliJ to see the format – it's just the same data as above as a Comma Separated Value file. Adapt the code from the notes (reading input from a file) to read the file. You'll have to split the data (see the String notes) and convert the age and salary fields to numeric; don't use a try-catch block for these, although a real program should – just use `parseInt()` and `parseDouble()` and hope for the best. Then display a formatted table something like this (adapt the code from #4, too):

First Name	Last Name	ID	Age	Salary
John	Smith	142A	27	42500.00
Maxine	Liu	227A	25	48000.00
Karen	Ng	414B	31	52575.00
Rob	Downes	712B	23	28025.00
Barrett	Marty	444C	99	-1.00
Farkas	Sid	201C	48	250000.00

6. Now add a new column to the output called "Category". Create a String variable named `category` and initialize it to `null`. If the employee's salary is either negative or greater than 150000, reset category to "Error". If the employee's salary is at least 0 but less than 35000, re-set category to "Low"; if it's at least 35000 but less than 70000, set category to "Medium"; and if it's at least 70000, set it to "High". Display category in the last column. Your output should look something like this:

First Name	Last Name	ID	Age	Salary	Category
John	Smith	142A	27	42500.00	Medium
Maxine	Liu	227A	25	48000.00	Medium
Karen	Ng	414B	31	52575.00	Medium
Rob	Downes	712B	23	28025.00	Low
Barrett	Marty	444C	99	-1.00	Error
Farkas	Sid	201C	48	250000.00	Error

Deliverable: Add your name and Andrew id to the comment at the top of the file. Upload the file to Canvas.