

## Lab 9 Exceptions and Text IO:

In this project you will use an object of the Scanner class to read employee payroll data from a text file provided by me. To do this, you need to know the order of the data and its types stored in the file.

<u>Data</u>	<u>Data Type</u>
Employee ID	int
Last name	String
FirstName	String
Hours worked	double
Hourly rate	double

The main method will simply define a constant String for the file name, for instance, "c:\\data\\payroll.txt". Notice the doubling of the "\\". Since "\" is the escape character, you must escape it with a slash to tell Java that it really is a slash. Linux style slashes, "c:/data/payroll.txt", also work.

**Sample Input File named payroll.txt** (could have more or less records):

```
100 lincoln abraham 40.00 25.00
200 freud sigmund 50.00 22.50
300 johnson lyndon 15.00 32.00
400 curie marie 55.00 30.00
```

The program does not know how many records will be in the file, so it will read until end-of-file, processing each input record as it goes. The program should not use arrays or arraylists to contain the input records.

The program will call a method that uses hours worked and pay rate to calculate regular, overtime and total pay. Remember to multiply overtime hours (hours above 40) by 1.5 and to calculate regular pay only on hours less than or equal to 40.

How can you return both regular pay and overtime pay from one method without using global variables? You already know the answer, right?

After pay is calculated and returned to main, main will call a method to write the information to an output file as a well-aligned, formatted table like the one shown in the sample output file associated with this assignment. Also, display the output to the console as shown below.

When main creates the new Scanner object, Java will require it to catch a FileNotFoundException. If this happens, display a descriptive message to the user and exit the entire program using System.exit(-1);

When reading data from the file, catch an InputMismatchException, even though Java does not require it. This will handle such problems as reading a non-numeric value when the program expected an int or

double. If this problem occurs, display a descriptive message, close the Scanner object and exit the program.

Program Output:

- Console report like below
- Output text file containing the report like below

```
----- PAYROLL REPORT -----
Employee      Employee      Pay      Hours      Regular      Overtime      Total
Number        Name        Rate      Worked      Pay          Pay          Pay
-----
100      abraham lincoln      25.00      40.00      1000.00      0.00      1000.00
200      sigmund freud      22.50      50.00      1125.00      393.75      1518.75
300      lyndon johnson      32.00      15.00      480.00      0.00      480.00
400      marie curie      30.00      55.00      1650.00      787.50      2437.50
```

Compress the files using our naming standard, such as CIS131-DFreitag-HW-LAB9.zip, and then upload it to D2L.