

## CMPS 12A

### Introduction to Programming

#### Programming Assignment 1

#### Overview

The purpose of this assignment is to write a program that takes input from the user, performs some simple calculations, and outputs something back to the user. The program will calculate how much money you will be making on your next paycheck based on how many hours you worked during the week and your pay rate. Input for the program will consist of two numbers: Total number of hours that were worked Monday through Sunday and your pay rate. So if you worked **25** hours in a week at a pay rate of \$12/hour, then your paycheck will be \$300 ( $25 * 12$ ). If you worked **45 hours** in a week, your paycheck will be \$570 ( $40 * 12 + 5 * 18$ ).

A sample run of your program will look like the following:

```
Please enter the total hours worked Monday through Sunday.  
45  
Please enter your pay rate (in terms of dollars per hour).  
12  
Your paycheck for this week is: 570.00
```

Notice how the program's output is grammatically correct and informative. The first line prompts the user for the total hours worked and assigns the input to a variable of type double. The user must be careful to enter only one number here (be careful not to enter 2 numbers separated by a space here), and press the enter (return) key. (**\*\*\*Note: you will need to determine how many regular hours and how many overtime hours the user has worked based on the total hours entered by the user. Overtime hours are hours over 40 hours in one week. How to calculate regular hours and overtime hours is shown in Overtime.java**). In the next line, the user is prompted for their pay rate, in terms of dollars per hour, the user presses return, and the user's answer is stored in a variable of type double. The program calculates the paycheck by the following:

1. Calculate regular pay: multiply regular hours by pay rate.
2. Calculate overtime pay: multiply overtime hours by pay rate by 1.5
3. Add numbers calculated in steps 1 and 2.

The number found in step 3 is printed to the user.

Please see the example Overtime.java on how to calculate regular hours and overtime hours.

It is not necessary that your program check for valid input; for example, you won't check that the user entered in a positive number (it's impossible to work negative hours in a week), or a positive pay rate.

The source code for your program will need to be saved in a file called PayCheck.java. Names for program files (this program and future programs) are NOT optional, points will be deducted for misspellings.

Your program will need an opening block consisting of the following: the name of the file, the name of the author, your cruzID (your email minus the @ucsc.edu part), the name of the assignment, and a short description of what the program does. Here are some examples:

```
// file_name.java
// your Name
// your CruzID
// assignment name
// a (very) short description of the program
```

or

```
//-----
// file_name.java
// your Name
// your CruzID
// assignment name
// a (very) short description of the program
//-----
```

or

```
/* file_name.java
* your Name
* your CruzID
* assignment name
* a (very) short description of the program */
```

or

```
/******
* file_name.java
* your Name
* your CruzID
* assignment name
* a (very) short description of the program
*****/
```

### **What to turn in**

Submit the file PayCheck.java to the canvas assignment Programming Assignment 1.

Start early, get help and ask questions in labs/office hours if anything is unclear.

### **Grading Rubric**

Program compiles and runs.	5pts
User is prompted for hours and pay rate.	2pts
Paycheck is <i>correctly</i> printed to user.	2pts
Program is properly commented and formatted.	1pt
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Total:	10pts