CSCI 1301 – Lab #3

The purpose of this exercise is to apply your knowledge about variables, arithmetic expressions, output statements and the Scanner class discussed during the lectures.

Exercise #1

Write a java program that contains a class called ***Earnings*** with a ***main*** method that performs the following:

- Declare a variable of data type **double** called ***grossEarnings***.
- Declare a constant of data type **double** called ***taxPercent*** whose value is 35.0.
- Declare a variable of data type **double** called ***tax***.
- Assign the value 4 million (4000000.00) to ***grossEarnings***.
- Compute the ***tax*** by multiplying the ***grossEarnings*** by the ***taxPercent*** and divide that result by 100 and assign this value to the variable ***tax.***
- Declare a variable of data type **double** called ***netEarnings***.
- Compute the ***netEarnings*** by subtracting the ***tax*** from the ***grossEarnings***.
- Display the ***grossEarnings***, ***taxPercent***, ***tax*** and ***netEarnings*** on the screen.

The output of your program should look similar this:

```
Gross Earnings:         4000000.0
Tax Percent:            35.0
Tax:                    1400000.0
Net Earnings:           2600000.0
```

You should format the output text in columns using the '\t' escape sequence as discussed during class. Compile and run your program.

Now, edit your program and change the value assigned to the variables ***grossEarnings*** and ***taxPercent*** to 3500000.00 and 28.5 respectively. Compile and run your program again.

Exercise #2

Modify the java program you wrote in exercise to ask the user for the gross earnings of the company. To do this, modify your program as follows:

- At the very top of the file before the declaration of your class, add the line

  ```
  import java.util.Scanner;
  ```

  This statement tells the compiler that you will be using objects and methods from the Scanner class.

- In the main method create a Scanner object called ***keyboard*** to read from *System.in* just after the declaration of the variables.
- Add a print statement to prompt the user for the gross earnings of the company.
- Afterward, add a read statement that reads in the gross earnings value of the company and assigns this value to the variable ***grossEarnings***. The Scanner object ***keyboard*** should use the ***nextDouble*** method of the Scanner class to read such a value since ***grossEarnings*** is a double.
- Check the example Listing 2.5 (pp. 87) of your textbook for more insights on how to request input from a user.

Compile and run your program. A run of your program should look like this:

```
Please enter the gross earnings: 560890.01
Gross Earnings:          560890.01
Tax Percent:             35.0
Tax:                     196311.50350000002
Net Earnings:            364578.5065
```

WebCT Submission

After you have completed both exercises in this lab, upload the file **Earnings.java** in WebCT and submit it to receive credit.