Lab Assignment Number 2
CS1140

Name:

In this lab we will be doing some simple IO (input/output) programming and do some simple computations using arithmetic operators.

Review the programs you wrote in **lab one** to help you figure out how to complete the programs required for this assignment.

Create a single project called **Lab2** and store all your files in that project.

PART 1 – Simple output **call your program Part1**

In last week's lab, your first program printed "Hello world" to your console window. In this part of the lab, instead of just printing one line of output, I want you to write code which will display a big VICE on the screen (by using multiple println statements). Your output should look as follows:

Example Run

```
The Vice

              **        **
              **        **
  **************        **************
  **************        **************
              **        **
              **        **
```

PART 2 – Simple arithmetic **call your program Part2**

Write a Java program that will prompt the user for **two integer** values and then prints the results of the four simple arithmetic operations.

Example Run

```
Simple arithmetic

Enter a number for the variable x : 12
Enter a number for the variable y : 8

x + y = 20
x – y = 4
x * y = 96
x / y = 1
```

PART 3 – Simple Multiplicaton table **call your program Part3**

Write a Java program that will display a simple multiplication table for the values of 1 to 4 for any value that the user enters. Look at how you wrote the code for Part 2 (above)

Example Run

```
Multiplication Table

Enter a number less than 10:  3

     1   2   3   4

3    3   6   9   12
```

PART 4 – Sales receipt **call your program Part4**

Write a Java program that will imitate a simple cash register transaction. You should **prompt the user** to enter the price of the item, next calculate the GST (5 %) on that price, calculate the total amount due. Next **prompt the user** for the amount tendered (how much money the customer has given) and calculate the change due.
The format of the sales receipt is shown in the example.

To complete this you will need to declare variables for **price, gst, total, tendered** and **change**. Also you will need to create three simple assignment expressions (equations) to solve for gst, total and change. Please note that all of the numbers for this program are fractional numbers so you need to **use double** for all your identifiers.

Example Run

```
Sales receipt
Enter the price of the item: 14.0

     Price : 14.00                          <- just the price
     GST   :  0.70                          <- price times 0.05 (the tax)
     Total : 14.70                          <- original price plus tax

Enter the amount tendered  : 15.00          <- how much the customer paid


Change due:    0.30                        <- money the customer is due

Thank you and have a nice day!
```

Note: *When you run your program it may turn out that* ***your decimal points don't line up*** *and there may be a different number of digits after the decimal point.* ***That's ok****; soon (in class) we will discuss formatting commands that will fix these issues.*