CSY1019 Week 2

Order of Precedence	Operators
1	(), !
2	* / %
3	+ -
4	< > <= >=
5	== !=
6	&&
7	||
8	= += -= *= /= %=

Lab Exercises:

1. Evaluate the following expressions (as in Java) by using a pen and paper (you may use a calculator). See Precedence Table below.

   i. 12 + 5/ 3 =
   ii. 8 – 2 + 3 * 2 =
   iii. ((4 * 3) / (5-2)) – 22 =
   iv. 3 * 6 + 5 % 2 =
   v. 3 + 7/5 + -2 * 3 =
   vi. 2 * (1 – (33/4.0) / 2) * (2 – 6 % 3) =
   vii. 3 + 11/2.0 – (32 % 4) + 5 - 21 =
   viii. 8 * (32 - 2) / 12 – (5/7) + (11.0/5.0) =
   ix. 4 + 22 % 2 - (24 – 21) + (23/2) + 7 - 3.0/2 =
   x. 4 + 2 * 3 + (5+2) * 3 - 1 + (7 % 2) + 23 * 2 =

   Verify the results of the above expressions by computing them in a Java program.

2. Write a program that asks the user to enter his/her name. The program should read the name and print:
   Hello *Name*
   Sample Run:
   ```
   Enter your name
   John
   Hello John
   ```

3. Write a program that reads two floating point numbers and prints their sum, difference and product.

   Sample Run:
   ```
   Enter the first number: 2.5
   Enter the second number: 1.2
   Their sum is: 3.7
   Their difference is: 1.3
   Their product is: 3.0
   ```

4. Write a program that converts miles into kilometers. (One mile equals 1.60935 kilometers). Read the miles value from the user as a double value.
   Sample Run:
   ```
   Enter the distance in miles: 5
   That distance in kilometers is: 8.04675
   ```

5. Write a program that has the following String variables: firstName, and lastName. Initialize these with your first and last names. The program should also have the following char variables: firstInitial, and lastInitial. Store your first and last initials in these variables. The program should display the contents of these variables on the screen.
   Sample Run:
   ```
   Name: HerbertDorfmann
   Initials: HD
   ```

6. Write a program that asks the user to enter three test scores. The program should display each test score as well as the average of those scores.
   Sample Run:

```
Enter test score #1: 3
Enter test score #2: 5
Enter test score #3: 7
Test average: 5.0
```

7. Write a program that prompts for the number of pizzas and the number of toppings. The program should calculate the price of the pizza (including sales tax) and print a receipt. Pizzas are £12.00 each. Each additional topping is £1.50. Tax is 5 percent.

   Sample Run:
   Enter the number of pizzas: 4
   Enter the total number of toppings: 6

   Receipt:
   Number of Pizzas: 4
   Number of Toppings: 6
   Cost (incl. tax): £59.85

8. Write a program that reads an integer between 100 and 999 and multiplies all the digits in the integer. For example, if an integer is 783, the product of all its digits is 168.

   Here is a sample run:
   Enter an integer between 100 and 999: 465
   The product of the digits is 120.

   Hint: Use % operator to extract digits and use / operator to remove the extracted digit. For instance, 783%10 = 3 and 783/10 = 78.