Vanier College, Continuing Education

Programming in Java

Winter 2015, Assignment-2

Teacher: Shamima Mithun   **Due Date: March 10, 2015**

Objectives

- Math Class, Integer and Floating point Arithmetic, String Class

Part#1

Question 1 (Math Class):

Write a Java program that does the following:

- first asks user to enter a number
- then calculate the power 4 of the number and the square root of the number
- and display the output of the above calculation

Sample runs of your program should generate the following outputs (user input is shown in blue text):

```
Enter a number: 9

The power 4 of the entered number: 6561

Square root of the number is: 3
```

Question 2 (Integer and floating point arithmetic)

Write a Java program that does the following:

a. prompt the user to input five decimal numbers
b. print the five decimal numbers
c. convert each decimal number to the nearest integer
d. add the five integers
e. print the sum and average of five integers

Sample runs of your program should generate the following outputs (user inputs are shown in blue text):

```
    Enter 1st number: 9.3

    Enter 2nd number: 2.6

    Enter 3rd number: 23. 7

    Enter 4th number: 12.5

    Enter 5th number: 45.8

User given 5 numbers are: 9.3, 2.6, 23.7, 12.5, and 45.8

The sum of the 5 numbers is 95 and the average is 19.
```

Question 3 (Arithmetic Expression)

Write a Java program that computes the tax and tip on a restaurant bill. The program should ask the user to enter the charge for the meal. The tax should be 6.75 percent of the meal charge. The tip should be 15 percent of the total after adding the tax. Display the meal charge, tax amount, tip amount, and total bill on the screen.

Sample runs of your program should generate the following outputs (user input is shown in blue text):

```
Enter the charge for the meal: 23.45

The total of the restaurant bill is: 28.79 $

The tax amount: 1.58 $

The tip amount: 3.75 $
```

Question 4

Write a Java program that asks the user to enter the name of his or her favorite city. Use a String variable to store the input. The program should display the following:

  a. the number of characters in the city name
  b. the first character in the name of the city
  c. the name of the city in all uppercase letters

Sample runs of your program should generate the following outputs (user input is shown in blue text):

```
Enter your favorite city name: Montreal

Number of characters in the user given city: 8

The first character in the user given city is: M

The name of the city in all uppercase letters: MONTREAL
```

--End--