TUTE 03

1) Write and run a Java program that generates a random integer, tests whether it is positive, and reports that it is if it is.

2) Write and run a Java program that generates two random integer, determines their minimum and prints it.

3) Write and run a Java program that generates a random integer and reports whether it is divisible by 2, by 3 or by 5.

   Hint: *n* is divisible by *d* if the remainder from dividing *n* by *d* is 0.

4) Write and run a Java program that inputs three names and then prints them in their increasing alphabetical order. Use the String class method ***compareTo().***

   For example, if s1 is the string ABACADABRA and s2 is the sting ABLE, the *s1.compareTo(s2)* will be a negative integer, *s2.compareTo(s2)* will be a 0, and *s2.compareTo(s1)* will be a positive integer.

   So the condition *(s1.compareTo(s2) <= 0)* can be used to determine whether s1 precedes s2 lexicographically (*i.e.*, according to the dictionary ordering).

5) Write and run a Java program that generates a random year between 1800 and 2000 and then reports whether it is a leap year. A leap year is an integer greater than 1584 that is either divisible by 400 or is divisible by 4 but not 100. To generate an integer in the range 1800 to 2000, use,

   int year = Math.round =(200*x +1800);

   Where x is a random *float*. The ***round()*** method of the Math class returns the integer nearest the float passed to it. The transformation *y = 200x+ 1800* converts a number in the range *0<= x < 1* into a number in the range *1800 <= y< 2000.*

6) Write and run a Java program that inputs the name of a month and then processes it by:
   a) Echoing the input;
   b) Extracting the first three letters;
   c) Capitalizing them;
   d) Printing that abbreviation;
   e) Extracting each of the three letters as a separate char variable;
   f) Using nested *if* and *if… else* statements to identify the number of the month from the char variables:
   g) Print the number of the month.

Here is the sample run:

Enter the month: **February**

You entered February

Its abbreviation is FEB

This is month number 2

7) Modify the program for question 6, replacing the nested *if* and *if… else…* statements with 12 parallel *if* statements with 12 parallel if statements , for example
For example;

If (month.equals (“FEB”)) n = 2;