Lab 8

Exercise 1 – Range of integers between two integers

Write a Java program that asks the user to input two integers and lists all integers between the two in proper order.

Example 1:
```
Please input two integers:  3    9

{3, 4, 5, 6, 7, 8, 9}
```

Example 2:
```
Please input two integers:  4    -2

{-2, -1, 0, 1, 2, 3, 4}
```

Exercise 2 – Multiplication table

Write a Java program that asks the user to input a positive integer N between 1 and 9 then prints the multiplication table up to N.

Example
```
Please input an integer between 1 and 9: 5

*    1    2    3    4    5

1    1    2    3    4    5

2    2    4    6    8    10

3    3    6    9    12   15

4    4    8    12   16   20

5    5    10   15   20   25
```

Exercise 3 – Max, Min & Average

Write a Java program that reads 10 integers then displays the maximum, minimum and average numbers.

Example

```
Please input 10 integers:1 2 3 4 5 -1 -2 -3 -4 -5

Max: 5

Min: -5

Average: 0.0
```

Bonus – Guessing Game

Write and test a java program that picks a number between 0 and 9 and gives the user 3 chances to guess it. If the user doesn't guess the number correctly in 3 attempts then the program should display the chosen number and exit. (integers only).

Example1:

```
I'm thinking about a number between 0 and 9. Can
you guess it? (3 attempt(s) left): 5

Sorry. Wrong number.

I'm thinking about a number between 0 and 9. Can
you guess it? (2 attempt(s) left): 3

Sorry. Wrong number.

I'm thinking about a number between 0 and 9. Can
you guess it? (1 attempt(s) left): 8

Sorry. Wrong number.

The correct number is 9.
```

Example2:

```
I'm thinking about a number between 0 and 9. Can
you guess it? (3 attempt(s) left): 5

Congratulations! That was the correct number.
```

Hint:

To pick a random number between 0 and 9 import the random number generator (`import java.util.Random;`) then create an instance of the generator (`Random r = new Random();`) then finally get a random number (`int myRandomNumber = r.nextInt(10);`).