Lesson 2024.12.19 Thu – Array of Random Integers

Student Name : _____ **Score : ___ / 100**

Rubric :

1. Write your Java code solution on this paper first
2. Implement the same code in your IDE
3. *I will collect this paper at the end of the class !!!!!!!!!*

Exercise: Array Manipulation and Analysis

Write a Java program that performs the following tasks:

1. Accept an integer `n` from the user to define the size of an array.
2. Populate the array with `n` random integers between 1 and 100 (inclusive).
3. Print the array.
4. Find and print the largest number in the array.
5. Find and print the smallest number in the array.
6. Calculate and print the average of all the numbers in the array.
7. Reverse the array and print the reversed array.

NOTE : you have to import the following libraries in your code :

```
import java.util.Scanner;
import java.util.Random;
```

To generate a random integer between 1 – 100 you use the following instruction:

```
array[i] = random.nextInt(100) + 1; // Random number between 1 and 100
```

You have to use the following nextInt() method from Random class:

nextInt

```
public int nextInt()
```

Returns the next pseudorandom, uniformly distributed `int` value from this random number generator's sequence. The general contract of `nextInt` is that one `int` value is pseudorandomly generated and returned. All 2^{32} possible `int` values are produced with (approximately) equal probability.

The method `nextInt` is implemented by class `Random` as if by:

```
public int nextInt() {
  return next(32);
}
```

Returns:

the next pseudorandom, uniformly distributed int value from this random number generator's sequence