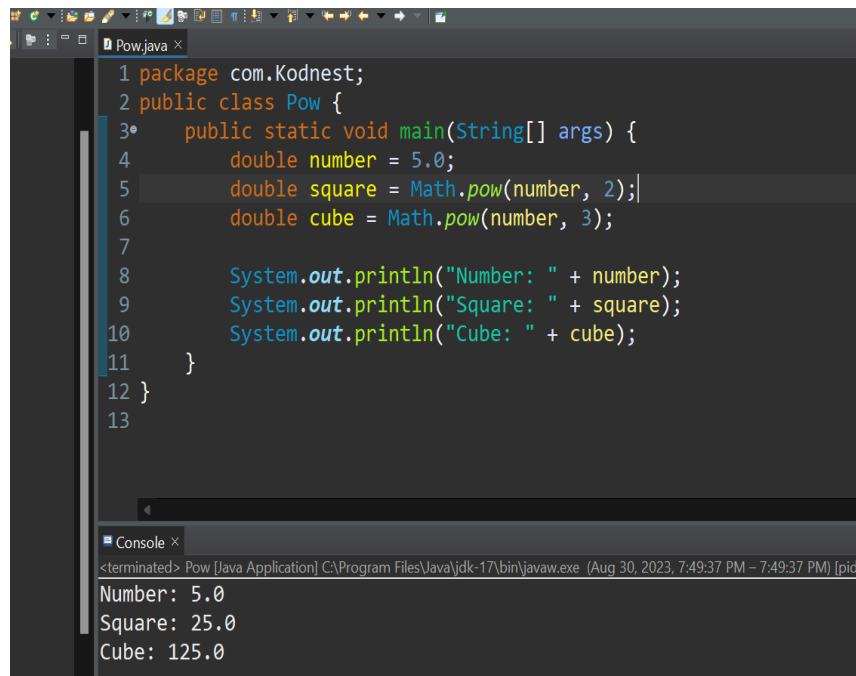


Assignment -1

➤ Math pow()

In Java, the **Math.pow()** function is used to calculate the power of a number. It takes two arguments: the base number and the exponent. The function returns the result of raising the base to the power of the exponent.

Math.pow() function returns a **double** value, so if you need an integer result, you might need to cast the result to an integer type.



```
1 package com.Kodnest;
2 public class Pow {
3     public static void main(String[] args) {
4         double number = 5.0;
5         double square = Math.pow(number, 2);
6         double cube = Math.pow(number, 3);
7
8         System.out.println("Number: " + number);
9         System.out.println("Square: " + square);
10        System.out.println("Cube: " + cube);
11    }
12 }
13
```

Console

```
<terminated> Pow [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 30, 2023, 7:49:37 PM - 7:49:37 PM) [pid: ...]
Number: 5.0
Square: 25.0
Cube: 125.0
```

Assignment -2

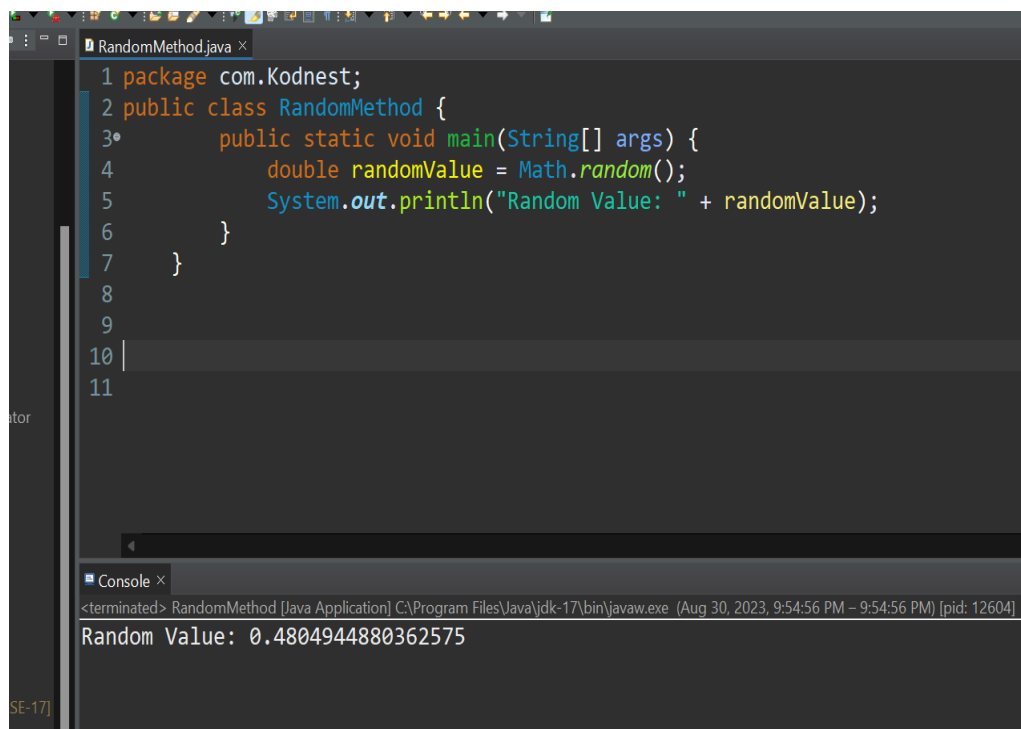
➤ Description of Random method

In Java, `random()` is not a standalone function. Instead, you typically use the `java.util.Random` class to generate random numbers. The `Random` class provides methods to generate random integers, doubles, floats, and other types of random values. The `random()` method is one of these methods and is used to generate random double values between 0.0 (inclusive) and 1.0 (exclusive).

Method Signature:

`public static double random()`

To use the `random()` method in Java, you need to create an instance of the `Random` class and then call the `random()` method on that instance. Here's an example:



```
1 package com.Kodnest;
2 public class RandomMethod {
3     public static void main(String[] args) {
4         double randomValue = Math.random();
5         System.out.println("Random Value: " + randomValue);
6     }
7 }
8
9
10
11
```

Console ×

<terminated> RandomMethod [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 30, 2023, 9:54:56 PM – 9:54:56 PM) [pid: 12604]

Random Value: 0.4804944880362575

SE-17]

Assignment -3

➤ Class Random

Certainly, the `java.util.Random` class in Java is used to generate pseudorandom numbers. It's a commonly used utility for various applications like simulations, games, cryptography, and more.

```
1 package com.Kodnest;
2 import java.util.Random;
3
4 public class RandomMethod2 {
5     public static void main(String[] args) {
6         Random randomGenerator = new Random();
7         int randomInt1 = randomGenerator.nextInt();
8         int randomInt2 = randomGenerator.nextInt(100);
9         System.out.println("Random Integer 1: " + randomInt1);
10        System.out.println("Random Integer 2: " + randomInt2);
11        double randomDouble1 = randomGenerator.nextDouble();
12        double randomDouble2 = randomGenerator.nextDouble() * 100;
13        System.out.println("Random Double 1: " + randomDouble1);
14        System.out.println("Random Double 2: " + randomDouble2);
15        boolean randomBoolean = randomGenerator.nextBoolean();
16        System.out.println("Random Boolean: " + randomBoolean);
17    }
18 }
19
```

Output:

```
<terminated> RandomMethod2 [Java Application] C:\Program Files\Java\jdk-
Random Integer 1: 1905861562
Random Integer 2: 14
Random Double 1: 0.10180503165794208
Random Double 2: 41.13107313208243
Random Boolean: true
```

In the above example, we:

Create a `Random` instance using `Random randomGenerator = new Random();`. Use the `nextInt()` method to generate random integers, both without bounds and with an upper bound. Use the `nextDouble()` method to generate random double values, both without bounds (between 0.0 and 1.0) and with a modified range (between 0.0 and 100.0). Use the `nextBoolean()` method to generate random boolean values.