ASSIGNMENT 11

Submitted By

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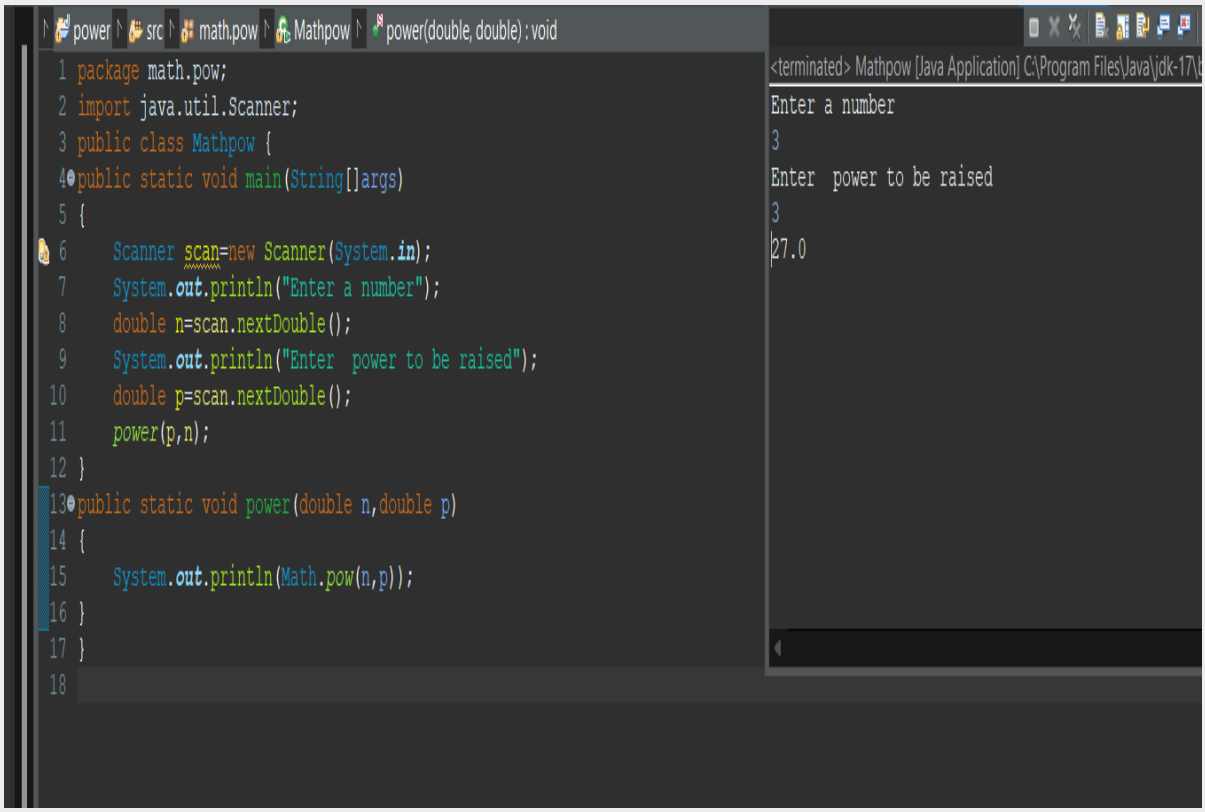
Math pow() method in java

The java.lang.Math.pow() is used to calculate a number raise to the power of some other number. This function accepts two parameters and returns the value of first parameter raised to the second parameter. There are some special cases as listed below:

- If the second parameter is positive or negative zero then the result will be 1.0.
- If the second parameter is 1.0 then the result will be same as that of the first parameter.
- If the second parameter is NaN then the result will also be NaN.
- The function java.lang.Math.pow() always returns a double datatype.



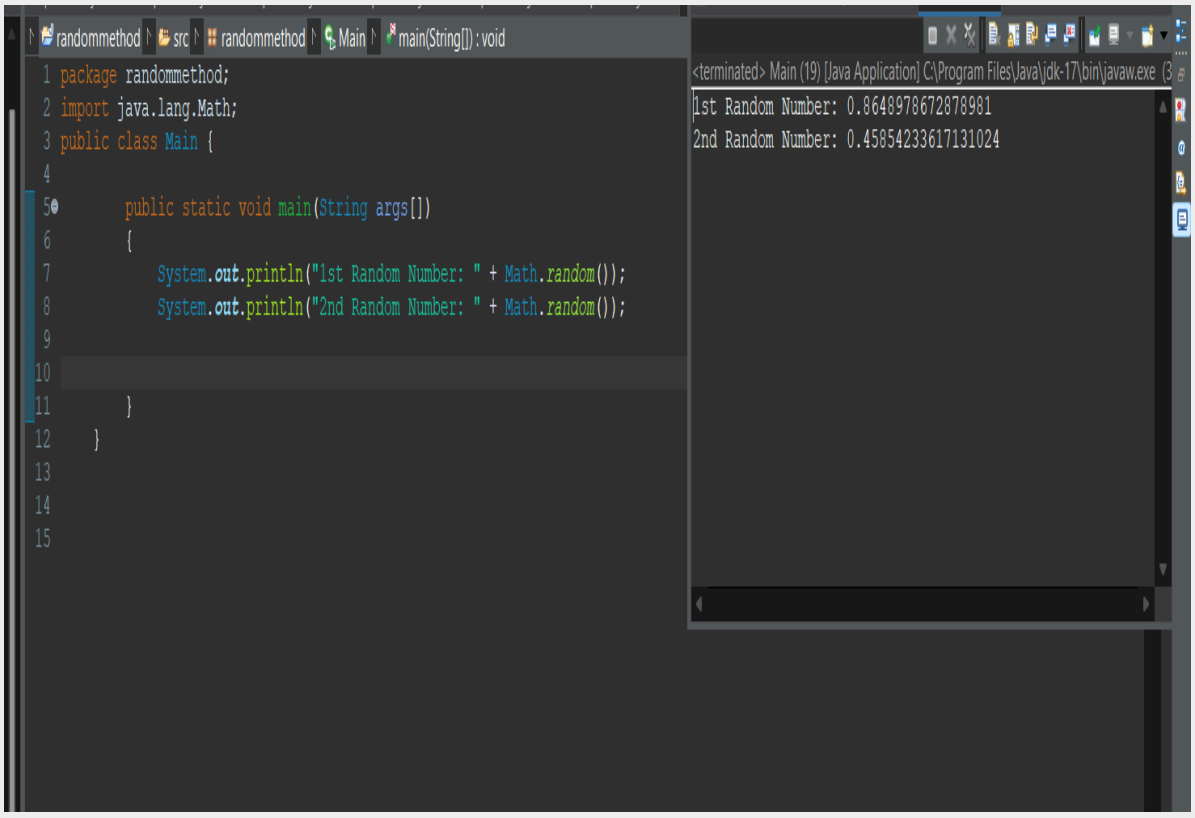
Math.random Method()

The Java Math class has many methods for different mathematical operations. One of them is the random() method. It is a static method of the Math class. We can invoke it directly. It generates only double type random number greater than or equal to 0.0 and less than 1.0. Before using the random() method, we must import the java.lang.Math class.

Syntax:

public static double random()

It does not accept any parameter. It returns a pseudorandom double that is greater than or equal to 0.0 and less than 1.0.



Every time we get a different output when we execute the program. Your output may differ from the output shown above.

We can also use the following formula if we want to a generate random number between a specified range.

Math.random() * (max - min + 1) + min

In the above formula, the min value is inclusive while the max value is exclusive.

Random Class

Another way to generate a random number is to use the Java Random class of the java.util package. It generates a stream of pseudorandom numbers. We can generate a random number of any data type, such as integer, float, double, Boolean, long. If you are going to use this class to generate random numbers, follow the steps given below:

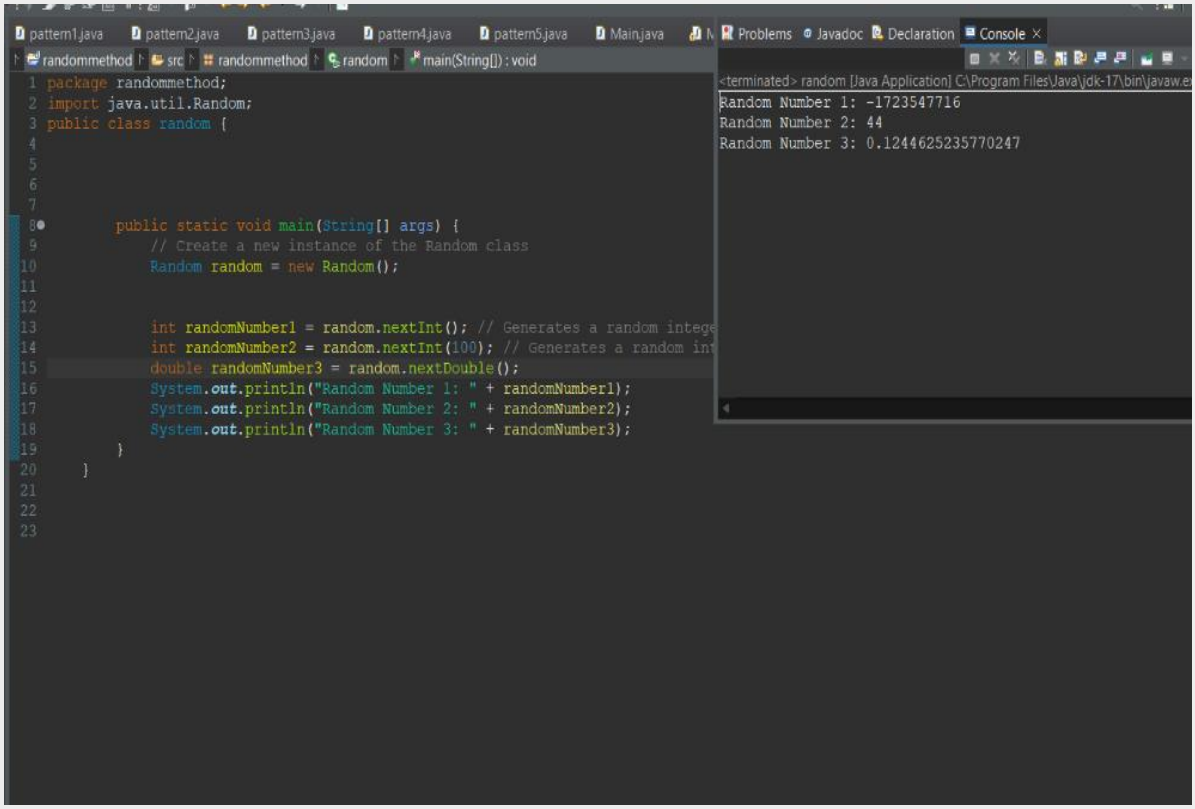
First, import the class java.lang.Random.

Create an object of the Random class.

Invoke any of the following methods:

- nextInt(int bound)
- nextInt()
- nextFloat()
- nextDouble()
- nextLong()
- nextBoolean()

All the above methods return the next pseudorandom, homogeneously distributed value (corresponding method) from this random number generator's sequence. The nextDouble() and nextFloat() method generates random value between 0.0 and 1.0.


pattern1.java
pattern2.java
pattern3.java
pattern4.java
pattern5.java
Main.java
Problems
Javadoc
Declaration
Console
randommethod
src
randommethod
random
main(String[]) : void
package randommethod;
import java.util.Random;
public class random {
public static void main(String[] args) {
// Create a new instance of the Random class
Random random = new Random();
int randomNumber1 = random.nextInt(); // Generates a random intege
int randomNumber2 = random.nextInt(100); // Generates a random int
double randomNumber3 = random.nextDouble();
System.out.println("Random Number 1: " + randomNumber1);
System.out.println("Random Number 2: " + randomNumber2);
System.out.println("Random Number 3: " + randomNumber3);
}
}
<terminated> random [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.e
Random Number 1: -1723547716
Random Number 2: 44
Random Number 3: 0.1244625235770247