ASSIGNMENT 11

Submitted by

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Math.pow():

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.

SYNTAX:

public static double pow(double a, double b)

a: this parameter is the base

b: this parameter is the exponent.

Return:

This method returns ab

Example:

```java
package MathPow;
public class MathPow {
    public static void main(String[] args)
    {
        double x = 5;
        double y = 4;
        //returns 5 power of 4 i.e. 5*5*5*5
        System.out.println(Math.pow(x, y));
    }
}
```

```
<terminated> MathPow [Java Application] C:\Program Files\Java\jdk-17\b
625.0
```

Math.random():

The java.lang.Math.random() method returns a pseudorandom double type number greater than or equal to 0.0 and less than 1.0. When this method is first called, it creates a single new pseudorandom-number generator, exactly as if by the expression new java.util.Random

Example:

```java
package MathPow;

import java.util.Scanner;

public class Random {
    public static void main(String args[])
    {
     Scanner scan =new Scanner(System.in);
        double rand = Math.random();
        System.out.println("Random Number:" + rand);
    }


}
```

```
<terminated> Random [Java Application] C:\Program Files\Java\jdk-17\bin\
Random Number:0.13442356125830368
```

Random class:

Random class is part of java. util package. An instance of java Random class is used to generate random numbers. This class provides several methods to generate random numbers of type integer, double, long, float etc.

1)Java.util.Random.doubles():

Returns an effectively unlimited stream of pseudo random double values, each between zero

(inclusive) and one (exclusive)

2)java.util.Random.ints():

Returns an effectively unlimited stream of pseudo random int values.

3)java.util.Random.longs():

Returns an effectively unlimited stream of pseudo random long values.

4)next(int bits): java.util.Random.next(int bits)

Generates the next pseudo random number.

5)java.util.Random.nextBoolean():

Returns the next pseudo random, uniformly distributed boolean value from this random number generator's sequence.

EXAMPLE

```
package MathPow;
import java.util.Random;

public class RandomClass{


public static void main(String[] args) {
     Random random = new Random();
    System.out.println(random.nextInt(10));
    System.out.println(random.nextBoolean());
    System.out.println(random.nextDouble());
    System.out.println(random.nextFloat());
    System.out.println(random.nextGaussian());
}
```

```
<terminated> RandomClass [Java Application] C:\Program Files\J
5
true
0.06646987971474017
0.6528998
-1.516982607197739
```