

## Exploring Math Class in Java

### Introduction:

In this lab session, we will explore the Math class in Java and its various methods that allow us to **perform mathematical tasks on numbers**.

### Math.max(x, y):

The Math.max(x, y) method finds the *highest value between x and y*. Let's take a look at an example:

```
System.out.println(Math.max(5, 10)); //Expected Output: 10
```

### Math.min(x, y):

The Math.min(x, y) method finds the *lowest value between x and y*. Observe the following example:

```
System.out.println(Math.min(5, 10)); //Expected Output: 5
```

## Math.sqrt(x):

The Math.sqrt(x) method returns the *square root of x*. Let's explore this with an example:

```
System.out.println(Math.sqrt(64)); //Expected Output: 8
```

## Math.abs(x):

The Math.abs(x) method returns the *absolute (positive) value of x*. Observe the following example:

```
System.out.println(Math.abs(-4.7)); // Expected Output: 4.7
```

## Random Numbers:

The Math.random() method *generates a random number between 0.0 (inclusive) and 1.0 (exclusive)*. To get more control over the random number range, you can use the formula (int)(Math.random() \* upperBound).

```
System.out.println(Math.random());
```

```
// Random number between 0 and 100
```

```
int randomNum = (int)(Math.random() * 101);
```

```
System.out.println(randomNum);
```

## Conclusion:

In this lab, we've explored some useful methods provided by the Math class in Java. Understanding and utilizing these methods **will enhance your ability to perform various mathematical operations** in your Java programs. Practice these concepts in coding exercises to reinforce your understanding.

