

JAVA.LANG.MATH.SCALB METHOD

http://www.tutorialspoint.com/java/lang/math_scalb_double.htm

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Description

The **java.lang.Math.scalb** method, *double d, int scaleFactor* returns $d \times 2^{\text{scaleFactor}}$ rounded as if performed by a single correctly rounded floating-point multiply to a member of the double value set. See the Java Language Specification for a discussion of floating-point value sets. If the exponent of the result is between Double.MIN_EXPONENT and Double.MAX_EXPONENT, the answer is calculated exactly. If the exponent of the result would be larger than Double.MAX_EXPONENT, an infinity is returned. Note that if the result is subnormal, precision may be lost; that is, when $\text{scalb}(x, n)$ is subnormal, $\text{scalb}(\text{scalb}(x, n), -n)$ may not equal x . When the result is non-NaN, the result has the same sign as d .

- If the first argument is NaN, NaN is returned.
- If the first argument is infinite, then an infinity of the same sign is returned.
- If the first argument is zero, then a zero of the same sign is returned.

Declaration

Following is the declaration for **java.lang.Math.scalb** method

```
public static double scalb(double d, int scaleFactor)
```

Parameters

- **d** -- number to be scaled by a power of two.
- **scaleFactor** -- power of 2 used to scale d

Return Value

This method returns $d \times 2^{\text{scaleFactor}}$

Exception

- NA

Example

The following example shows the usage of lang.Math.scalb method.

```
package com.tutorialspoint;

import java.lang.*;

public class MathDemo {

    public static void main(String[] args) {

        // get a x to be raised
        double x = 50.14;
        int y = 4;

        // calculate x multiplied by 2 raised in y
        System.out.println("Math.scalb(" + x + ", " + y + ")=" + Math.scalb(x, y));
    }
}
```

Let us compile and run the above program, this will produce the following result:

`Math.scalb(50.14, 4)=802.24`

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