

JAVA.MATH.BIGINTEGER.BITLENGTH METHOD

http://www.tutorialspoint.com/java/math/biginteger_bitlength.htm

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Description

The **java.math.BigInteger.bitLength** returns the number of bits in the minimal two's-complement representation of this BigInteger, excluding a sign bit. For positive BigIntegers, this is equivalent to the number of bits in the ordinary binary representation. It computes $\text{ceil}(\log_2(\text{this} < 0 ? -\text{this} : \text{this} + 1))$.

Declaration

Following is the declaration for **java.math.BigInteger.bitLength** method

```
public int bitLength()
```

Parameters

- NA

Return Value

This method returns number of bits in the minimal two's-complement representation of this BigInteger, excluding a sign bit.

Exception

- NA

Example

The following example shows the usage of **math.BigInteger.bitLength** method

```
package com.tutorialspoint;

import java.math.*;

public class BigIntegerDemo {

    public static void main(String[] args) {

        // create 2 BigInteger objects
        BigInteger bi1, bi2;

        // create 2 int objects
        int i1, i2;

        // assign values to bi1, bi2
        bi1 = new BigInteger("7");
        bi2 = new BigInteger("-7");

        // perform bitlength operation on bi1, bi2
        i1 = bi1.bitLength();
        i2 = bi2.bitLength();

        String str1 = "Result of bitlength operation on " + bi1 + " is " + i1;
        String str2 = "Result of bitlength operation on " + bi2 + " is " + i2;

        // print i1, i2 values
        System.out.println( str1 );
        System.out.println( str2 );
    }
}
```

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

```
Result of bitlength operation on 7 is 3  
Result of bitlength operation on -7 is 3  
Loading [MathJax]/jax/output/HTML-CSS/jax.js
```