JAVA.MATH.BIGDECIMAL.ULP METHOD

Description

The **java.math.BigDecimal.ulp** returns the size of an ulp, a unit in the last place, of this BigDecimal. An ulp of a nonzero BigDecimal value is the positive distance between this value and the BigDecimal value next larger in magnitude with the same number of digits.

An ulp of a zero value is numerically equal to 1 with the scale of this. The result is stored with the same scale as this so the result for zero and nonzero values is equal to [1, this.scale].

Declaration

Following is the declaration for **java.math.BigDecimal.ulp** method

```
public BigDecimal ulp()
```

Parameters

- **NA**

Return Value

This method returns the size of an ulp of BigDecimal.

Exception

- **NA**

Example

The following example shows the usage of math.BigDecimal.ulp method

```
package com.tutorialspoint;

import java.math.*;

public class BigDecimalDemo {

   public static void main(String[] args) {

      // create 4 BigDecimal objects
      BigDecimal bg1, bg2, bg3, bg4;

      bg1 = new BigDecimal("123");
      bg2 = new BigDecimal("1.23");

      // assign ulp value of bg1, bg2 to bg3, bg4
      bg3 = bg1.ulp();
      bg4 = bg2.ulp();

      String str1 = "ULP value of " + bg1 + " is " + bg3;
      String str2 = "ULP value of " + bg2 + " is " + bg4;

      // print bg3, bg4 values
      System.out.println( str1 );
      System.out.println( str2 );
   }
}
```

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

```
ULP value of 123 is 1
ULP value of 1.23 is 0.01
```