

Math Class



Math Class



Member	Description
Abs(x)	Returns absolute value of x
Acos(x)	Returns the angle whose cosine is x
Asin(x)	Returns the angle whose sine is x
Atan(x)	Returns the angle whose tangent is x
Ceiling(x)	Returns the greatest integer no whose $\geq x$
Cos(x)	Returns the cosine of x
Exp(x)	Returns e^x
Floor(x)	Returns the smallest integer no whose $\leq x$
IEEERemainder(x,y)	Returns the remainder of x/y

Math Class

Member	Description
Log(x)	Returns the natural logarithm of x
Log10(x)	Returns the base 10 logarithm of x
Max(x,y)	Returns the largest of the two integers
Min(x,y)	Returns the smallest of the two integers
Pow(x,y)	Returns x^y
Round(x)	Returns x rounded to the nearest integer
Sign(x)	Returns <ul style="list-style-type: none">• -1 if $x < 0$• 0 if $x = 0$• 1 if $x > 0$
Sin(x)	Returns the sine of angle x
Sqrt(x)	Returns the square root of x, NaN(Not a Number) if x is negative
Tan(x)	Returns the tangent of angle x

Math Class: Constant Values



✧ Math Class provides two Constant values:

1. **Math:E** – the value of the constant **e**, the base of natural logarithms
2. **Math:PI** – the value of the constant **PI(π)**, the ratio of a circle's circumference to its diameter

To call Math Class Methods



```
Dim res As Integer  
res=Math.Abs(-5)
```

OUTPUT: 5

Generating Random Numbers



- ❧ VB.NET pseudo-random number generator can produce sequences of numbers that meet the requirements of randomness
- ❧ Random number operations use the Random class

Generating Random Numbers



Member	Description
Next()	Returns a random number between 0 and the maximum value of type integer (2,147,483,647)
Next(x)	Returns a random number between 0 and x. The x must be greater than 0 and less than the maximum value of type integer (2,147,483,647)
Next(x,y)	Returns a random number between x and y. The x must be greater than 0, and y must be greater than x and less than the maximum value of type integer (2,147,483,647)
NextDouble()	Returns a random number of type Double, greater than or equal to 0 or less than 1

Example



```
Dim r As New System.Random()
```

```
Dim res As Double
```

```
res=r.Next ()
```

```
Console.WriteLine(res)
```

```
res=r.Next (50)
```

```
Console.WriteLine(res)
```

```
res=r.Next (20,40)
```

```
Console.WriteLine(res)
```

```
res=r.NextDouble()
```

```
Console.WriteLine(res)
```

What are the possible values?

0 - 50

20 - 40

0 - 1