C# - OPERATORS PRECEDENCE

Operator precedence determines the grouping of terms in an expression. This affects evaluation of an expression. Certain operators have higher precedence than others; for example, the multiplication operator has higher precedence than the addition operator.

For example x = 7 + 3 * 2; here, x is assigned 13, not 20 because operator * has higher precedence than +, so the first evaluation takes place for 3*2 and then 7 is added into it.

Here, operators with the highest precedence appear at the top of the table, those with the lowest appear at the bottom. Within an expression, higher precedence operators are evaluated first.

Category	Operator	Associativity
Postfix	[] -> . ++ - -	Left to right
Unary	+ - ! ~ ++ - - *type** & sizeof	Right to left
Multiplicative	* / %	Left to right
Additive	+ -	Left to right
Shift	<< >>	Left to right
Relational	< <= > >=	Left to right
Equality	== !=	Left to right
Bitwise AND	&	Left to right
Bitwise XOR	^	Left to right
Bitwise OR	|	Left to right
Logical AND	&&	Left to right
Logical OR	||	Left to right
Conditional	?:	Right to left
Assignment	= += -= *= /= %=>>= <<= &= ^= |=	Right to left
Comma	,	Left to right

Example

```
using System;
namespace OperatorsAppl
{
   class Program
   {
      static void Main(string[] args)
      {
         int a = 20;
         int b = 10;
         int c = 15;
         int d = 5;
         int e;
         e = (a + b) * c / d;      // ( 30 * 15 ) / 5
         Console.WriteLine("Value of (a + b) * c / d is : {0}", e);
```

```
            e = ((a + b) * c) / d;   // (30 * 15 ) / 5
            Console.WriteLine("Value of ((a + b) * c) / d is  : {0}", e);

            e = (a + b) * (c / d);   // (30) * (15/5)
            Console.WriteLine("Value of (a + b) * (c / d) is  : {0}", e);

            e = a + (b * c) / d;    //  20 + (150/5)
            Console.WriteLine("Value of a + (b * c) / d is  : {0}", e);
            Console.ReadLine();
        }
    }
}
```

When the above code is compiled and executed, it produces the following result:

```
Value of (a + b) * c / d is : 90
Value of ((a + b) * c) / d is  : 90
Value of (a + b) * (c / d) is  : 90
Value of a + (b * c) / d is  : 50
```