

# Precedence and Associativity of Operators in C

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Operators are listed in order of precedence (highest to lowest). Their associativity indicates in what order operators of equal precedence in an expression are applied.

Column A	Associativity
<code>() [] -&gt; .</code>	left to right
<code>! ~ ++ -- + - *(type) sizeof</code>	right to left
<code>* / %</code>	left to right
<code>+ -</code>	left to right
<code>&lt;&lt; &gt;&gt;</code>	left to right
<code>&lt; &lt;= &gt; &gt;=</code>	left to right
<code>== !=</code>	left to right
<code>&amp;</code>	left to right
<code>^</code>	left to right
<code> </code>	left to right
<code>&amp;&amp;</code>	left to right
<code>  </code>	left to right
<code>? :</code>	right to left
<code>= += -= *= /= %= &amp;= ^=  = &lt;&lt;= &gt;&gt;=</code>	right to left
<code>,</code>	left to right

**Table 1:** Precedence and Associativity of Operators

For in-depth descriptions and applied examples of each operator listed on this table, please consider consulting:

The C Programming Language (*2nd Edition*), by Brian W. Kernighan and Dennis M. Ritchie. Prentice Hall, 1988. ISBN 0131103628