# C++ Precedence Table

| *Precedence Level* | *Symbol* | *Description* | *Associativity* |
|---|---|---|---|
| 1 Highest | ( ) | Function call | Left to right |
| | [ ] | Array subscript | |
| | → | C++ indirect component selector | |
| | : : | C++ scope access / resolution | |
| | . | C++ direct component selector | |
| 2 Unary | ! | Logical negation | Right to left |
| | ~ | Bitwise (1's) complement | |
| | + | Unary plus | |
| | - | Unary minus | |

| *Precedence Level* | *Symbol* | *Description* | *Associativity* |
|---|---|---|---|
| | `++` | Preincrement or postincrement | |
| | `––` | Predecrement or postdecrement | |
| | `&` | Address of | |
| | `*` | Indirection | |
| | `sizeof` | (Returns size of operand, in bytes.) | |
| | `new` | (Dynamically allocates C++ storage.) | |
| | `delete` | (Dynamically deallocates C++ storage.) | |
| 3 Member Access | `.*` | C++ dereference | Left to right |
| | `→*` | C++ dereference | |
| 4 Multipli-cative | `*` | Multiply | Left to right |
| | `/` | Divide | |
| | `%` | Remainder (modulus) | |
| 5 Additive | `+` | Binary plus | Left to right |
| | `-` | Binary minus | |
| 6 Shift | `<<` | Shift left | Left to right |
| | `>>` | Shift right | |

| *Precedence Level* | *Symbol* | *Description* | *Associativity* |
|---|---|---|---|
| 7 Relational | < | Less than | Left to right |
| | <= | Less than or equal to | |
| | > | Greater than | |
| | >= | Greater than or equal to | |
| 8 Equality | == | Equal to | Left to right |
| | != | Not equal to | |
| 9 | & | Bitwise AND | Left to right |
| 10 | ^ | Bitwise XOR | Left to right |
| 11 | \| | Bitwise OR | Left to right |
| 12 | && | Logical AND | Left to right |
| 13 | \|\| | Logical OR | Left to right |
| 14 Condi-tional | ?: | | Right to left |
| 15 Assignment | = | Simple assignment | Right to left |
| | *= | Assign product | |
| | /= | Assign quotient | |

| *Precedence Level* | *Symbol* | *Description* | *Associativity* |
|---|---|---|---|
| | %= | Assign remainder | Right to left |
| | += | Assign sum | |
| | -= | Assign difference | |
| | &= | Assign bitwise AND | |
| | ^= | Assign bitwise XOR | |
| | \|= | Assign bitwise OR | |
| | <<= | Assign left shift | |
| | >>= | Assign right shift | |
| 16 Comma | , | Evaluate | Left to right |