

Rank	Operator in C++	Description	Result	Associativity
A	()	Grouping		N/A
A	::	Scope resolution operator, unary (global)		N/A
A	::	Scope resolution operator, binary		L-R
B1	()	Function call	rexp	L-R
B2	[]	Subscript	lexp	L-R
B3	.	Structure member	lexp	L-R
B4	->	Structure pointer member	lexp	L-R
B5	++	Postfix increment	rexp	L-R
B6	--	Postfix decrement	rexp	L-R
C1	!	Logical negate	rexp	R-L
C2	~	One's complement	rexp	R-L
C3	+	Unary plus	rexp	R-L
C4	-	Unary minus	rexp	R-L
C5	++	Prefix increment	<b>lexp</b>	R-L
C6	--	Prefix decrement	<b>lexp</b>	R-L
C7	*	Indirection (dereference)	lexp	R-L
C8	&	Address of	rexp	R-L
C9	sizeof	Size in bytes	rexp	R-L
D	(type)	Type conversion (cast)	rexp	R-L
E1	*	Multiplication	rexp	L-R
E2	/	Division	rexp	L-R
E3	%	Integer remainder (modulo)	rexp	L-R
F1	+	Addition	rexp	L-R
F2	-	Subtraction	rexp	L-R
G1	<<	Left shift	rexp	L-R
G2	>>	Right shift	rexp	L-R
H1	>	Greater than	rexp	L-R
H2	>=	Greater than or equal	rexp	L-R
H3	<	Less than	rexp	L-R
H4	<=	Less than or equal	rexp	L-R
I1	==	Equal to	rexp	L-R
I2	!=	Not equal to	rexp	L-R
J	&	Bitwise AND	rexp	L-R
K	^	Bitwise exclusive OR	rexp	L-R
L		Bitwise inclusive OR	rexp	L-R
M	&&	Logical AND	rexp	L-R
N		Logical OR	rexp	L-R
O	?:	Conditional	<b>lexp</b>	N/A
P1	=	Assignment	<b>lexp</b>	R-L
P2	+=	Add to	<b>lexp</b>	R-L
P3	-=	Subtract from	<b>lexp</b>	R-L
P4	*=	Multiply by	<b>lexp</b>	R-L
P5	/=	Divide by	<b>lexp</b>	R-L
P6	%=	Modulo by	<b>lexp</b>	R-L
P7	<<=	Shift left by	<b>lexp</b>	R-L
P8	>>=	Shift right by	<b>lexp</b>	R-L
P9	&=	AND with	<b>lexp</b>	R-L
P10	^=	Exclusive OR with	<b>lexp</b>	R-L
P11	=	Inclusive OR with	<b>lexp</b>	R-L
Q	,	Comma	rexp	L-R

Note: All operators within a section (between horizontal lines) have the same precedence and the associativity must be applied.

### Some non-printing control characters

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0 NUL  
7 Bell  
8 Backspace  
9 Tab  
10 Line feed  
13 Carriage return  
26 End of file (Ctrl-Z)  
27 [Esc] (Escape key)

### ASCII characters (only 32-127 are standard)

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32	64 @	96 `	128 Ç	160 á	192 Ł	224 α
33 !	65 A	97 a	129 Ć	161 í	193 ł	225 β
34 "	66 B	98 b	130 é	162 ó	194 Ł	226 Γ
35 #	67 C	99 c	131 â	163 ú	195 ł	227 π
36 \$	68 D	100 d	132 ä	164 ñ	196 —	228 Σ
37 %	69 E	101 e	133 à	165 Ñ	197 Ł	229 σ
38 &	70 F	102 f	134 å	166 ª	198 ł	230 μ
39 '	71 G	103 g	135 ç	167 °	199 Ł	231 τ
40 (	72 H	104 h	136 ê	168 ¿	200 ł	232 Φ
41 )	73 I	105 i	137 ë	169 ƒ	201 Ł	233 Θ
42 *	74 J	106 j	138 è	170 ƒ	202 ł	234 Ω
43 +	75 K	107 k	139 ì	171 ½	203 Ł	235 δ
44 ,	76 L	108 l	140 î	172 ¼	204 ł	236 ∞
45 -	77 M	109 m	141 ï	173 ;	205 =	237 φ
46 .	78 N	110 n	142 Ä	174 «	206 Ł	238 ε
47 /	79 O	111 o	143 Å	175 »	207 ł	239 ∩
48 0	80 P	112 p	144 É	176 ☐	208 Ł	240 ≡
49 1	81 Q	113 q	145 æ	177 ☐	209 ł	241 ±
50 2	82 R	114 r	146 Æ	178 ☐	210 Ł	242 ≥
51 3	83 S	115 s	147 ô	179 ☐	211 ł	243 ≤
52 4	84 T	116 t	148 ö	180 ☐	212 ł	244 ∫
53 5	85 U	117 u	149 ò	181 ☐	213 ł	245 ∫
54 6	86 V	118 v	150 û	182 ☐	214 ł	246 ÷
55 7	87 W	119 w	151 ù	183 ☐	215 ł	247 ≈
56 8	88 X	120 x	152 ŷ	184 ☐	216 ł	248 °
57 9	89 Y	121 y	153 Ö	185 ☐	217 ł	249 ·
58 :	90 Z	122 z	154 Ü	186 ☐	218 ł	250 ·
59 ;	91 [	123 {	155 Ć	187 ☐	219 ☐	251 √
60 <	92 \	124	156 £	188 ☐	220 ☐	252 ⁿ
61 =	93 ]	125 }	157 ¥	189 ☐	221 ☐	253 ²
62 >	94 ^	126 ~	158 ₰	190 ☐	222 ☐	254 ■
63 ?	95 _	127 ∆	159 f	191 ☐	223 ☐	255

### Common `printf` formatting codes

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`%c` - characters  
`%s` - strings (NUL-terminated C strings)  
`%d, %i` - integers  
`%f` - floating point  
`%g` - floating point (minimum digits)  
`%e` - scientific notation  
`%p` - pointers (displays in hex)  
`%x` - hexadecimal integers (Use `%X` for uppercase)  
`%o` - octal integers  
`%u` - unsigned integers  
`%ld, %li` - long integers  
`%lu` - unsigned long integers  
`%hd, %hi` - short integers  
`%hu` - unsigned short integers