Table 3.8 *Summary of C Operators*

Operator	*Description*	*Associativity*	*Rank*
( ) [ ]	Function call Aray element reference	Left to right	1
+ – ++ – – ! ~ * & sizeof (type)	Unary plus Unary minus Increment Decrement Logical negation Ones complement Pointer reference (indirection) Address Size of an object Type cast (conversion)	Right to left	2
* / %	Multiplication Division Modulus	Left to right	3
+ –	Addition Subtraction	Left to right	4
<< >>	Left shift Right shift	Left to right	5
< <= > >=	Less than Less than or equal to Greater than Greater than or equal to	Left to right	6
== |=	Equality Inequality	Left to right	7
&	Bitwise AND	Left to right	8
^	Bitwise XOR	Left to right	9
|	Bitwise OR	Left to right	10
&&	Logical AND	Left to right	11
||	Logical OR	Left to right	12
?:	Conditional expression	Right to left	13
= * = /= %= += –= &= ^= |= <<= >>=	Assignment operators	Right to left	14
,	Comma operator	Left to right	15

Range of N	Allowed Time Complexity
$N \leq 10$	$O(N!)$
$N \leq 25$	$O(2^N)$
$N \leq 100$	$O(N^4)$
$N \leq 500$	$O(N^3)$
$N \leq 5000$	$O(N^2)$
$N \leq 10^5$	$O(N\sqrt{N})$, $O(N\log^2 N)$
$N \leq 10^6$	$O(N\log N)$, optimized $O(N\log^2 N)$
$N \leq 10^7$	$O(N\log\log N)$, $O(N)$, optimized $O(N\log N)$
$N \leq 10^8$	$O(\sqrt{N})$, optimized $O(N)$
$N \leq 10^{12}$	$O(\sqrt{N})$
$N \leq 10^{16}$	optimized $O(\sqrt{N})$
$N \leq 10^{18}$	$O(\log N)$

NOTE: In average 10^8 elementary operations can be performed in 1 second in c++. Java is 2-3 times slower while Python is almost 5 times slower