



C PROGRAMING

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Escape sequences

- | | | | |
|------|---|------------------------------|---------------------------------------------------------------|
| • \' | - | Single quotation mark | prints ' |
| • \" | - | Prints Double quotation mark | prints" |
| • \\ | - | Backslash Character | Prints\ |
| • \a | - | Alert | Alerts by Generating beep |
| • \b | - | Backspace | Movers cursor one postion to the left of its current position |
| • \f | - | Form Feed | Moves cursor to the beginning of next page |
| • \n | - | New line | Moves cursor to the beginning of next line |
| • \r | - | Carraige return | Moves the cursor to the beginning of current line |
| • \t | - | Horizontal tab | Moves the cursor to next horizontal tab stop |
| • \v | - | Vertical tab | Vertical tab |



Operators

- An expression in C is made up of operands , for eg $a = 2 + 3$ is a meaningful expression which involves 3 operands 2 , 3 , a and 2 operators i.e =,+ , Thus expression is sequence of Operators and operands
- Precedence of Operators:-Each Operator in C has a precedence associated with it , In a compound expression operator involved are of different precedence so operator with highest priority is evaluated first .
- Associativity : In compound expression when several operator are of same precedence operators are evaluated according to there associativity either left to right or right to left.

Classification of operators

- Unary Operators – Unary Operator operates on only one operand for example in the expression -3 – is a unary minus operator examples of unary operator are &,sizeof,!(logical negation),~(bitwise negation),++(increment),--(decrement) operator
- Binary Operators – Binary operator operates on 2 operands for example expression $2-3$, - acts as a binary minus operator as it operates on 2 operands 2 and 3 for exampe *,/,<<(left shift),>>(Right shift),Logical And(&), Bitwise And(&)
- Ternary Operator – A ternary operator operates on three operands for example Conditional operator (?:) is the only ternary operator in C



- Classification Based on operator

Based on there role operators are classified as

- Arithmetic Operators
- Relational Operators
- Logical Operators
- Bitwise Operators
- Assignment Operators



Operators Precedence and Associativity

OPERATOR	TYPE	ASSOCIIVITY
() [] . ->		left-to-right
++ -- +- ! ~ (type) * & sizeof	Unary Operator	right-to-left
* / %	Arithmetic Operator	left-to-right
+ -	Arithmetic Operator	left-to-right
<< >>	Shift Operator	left-to-right
< <= > >=	Relational Operator	left-to-right
== !=	Relational Operator	left-to-right
&	Bitwise AND Operator	left-to-right
^	Bitwise EX-OR Operator	left-to-right
	Bitwise OR Operator	left-to-right
&&	Logical AND Operator	left-to-right
	Logical OR Operator	left-to-right
? :	Ternary Conditional Operator	right-to-left
= += -= *= /= %= &= ^= = <=> >>=	Assignment Operator	right-to-left
,	Comma	left-to-right



Arithmetic operators

- Arithmetic operators work with all primitive data types i.e. int, float, char, double.
- Precedence of * & / is higher than + & -.
- % operator doesn't work with float and double type.
- % operator follows sign of numerator
- If two operands are of different types, the lower type is promoted temporarily for computation.
- char and short are promoted is promoted temporarily for computation.
- Char types are treated as integers (ASCII values) for calculation.
- If result exceed range of data type (overflow), then it rollback.





Thank you!

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