C Language

Chapter # 9

Elements of C language

Lecture: 14

Today's Lecture

- Operator precedence
- Operator Associativity
- Comments.

Operator Precedence

- The order in which different types of operators in an expression are evaluated is known as operator precedence. It is also known as hierarchy of operators.
- Each operator has its own precedence level. If an expression contains different types of operators, the operators with higher precedence are evaluated before the operators with lower precedence.

The order of precedence in C languge is as follows.

- Any expression given in parentheses is evaluated first.
- Then multiplication * and division / operators are evaluated.
- Then plus + and minus - operators are evaluated.
- In case of parentheses within parentheses, the expression of the inner parentheses will be evaluated first.

Operator Precedence Table

Operator	Precedence
! (Logical Not)	Highest
* , / , %	
+ , -	
< , <= , > , >=	
== , !=	
&&	
||	
= (Assignment operator)	Lowest

Operator Precedence Example

10 * (24 / **(5 - 2)**) + 13

10 * **(24 / 3)** + 13

10 * 8 + 13

80 + 13

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Operator Associativity

- The order in which operators of same precedence are evaluated is known as operator associativity.
- If an expression contains some operators that have same precedence, the expression is evaluated either from **left-to-right** or **right-to-left.**

The order of precedence in C languge is as follows.

Operators	**Associativity**
() ++ (Postfix) - - (Postfix)	Left-to-Right
+ (Unary) - (Unary) ++ (Prefix) - - (Prefix)	Left-to-Right
* / %	Left-to-Right
+ -	Left-to-Right
= += -= *= /=	Right-to-Left

Operator Associativity Example

10 * 24 / 5 - 2 + 13

240 / 5 - 2 + 13

48 - 2 +13

46 + 13

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Comments

- Comments are the lines of program that are not executed.
- The compiler ignore comment and does not include them in the executable program. That is why the comments does not affect the size of executable program.
- Comments are used to increases the readability of the program.
- Comments are notes of different lines of code that explain the purpose of the code.
- The user can insert information notes in the code. It helps in debugging and modifying the program later.
- Comments can be added anywhere in the program.

Types of Comments

- **Single-line Comments:** The comments on single line are added by using double slash "//" Anything written on the right side of double slash is considered as comments and is ignored during execution.

  For example: // Practice makes a man programmer.

- **Multi-line Comments:** The multi-line comments are written in the code by placing /* at the beginning if the comments. The character */ is used to the end the multi-line comments.

  For example:
  ```
  /*These lines are
  for the purpose of
  writing comments*/
  ```

The End

Read this topic from your books and ask question if any confusion.

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