



Converting between deferent data types	
<ul style="list-style-type: none">Expressions types in C++ language, how formulate expression:Arithmetic expression /deferent arithmetic operation and its priorities / conversion manner of arithmetic expression to Arithmetic expression in C++ language/deferent examples	الثالث

EXPRESSION IN C++

"Expression in C++ is form when we combine operands (variables and constant) and C++ OPERATORS."

Expression can also be defined as:

"Expression in C++ is a combination of Operands and Operators."

OPERANDS IN C++ PROGRAM are those values on which we want to perform perform operation.

There are **three** types of expressions:

1. Arithmetic expression
2. Relational expression
3. Logical expression

What is a C++ OPERATOR?

"C++ OPERATORS are signs use to perform certain task e.g addition"

There are two kinds of operators:

a) Unary operator b) Binary operator



What is the difference between Unary and Binary operator?

Unary operators:

"Requires single operand item to perform operation".

Binary operators:

"Required more than one operand item to perform operation".

Types of operators :

1. Arithmetic operators
2. Relational operators
3. Logical operators
4. Increment and decrement operators
5. Assignment operator
6. Bit-wise operator

Arithmetic Expression and Arithmetic operator

"An expression in which arithmetic operators are used is called arithmetic expression".

For example an arithmetic expression is look just like that $a+b=5$

Explanation:

LIST OF ARITHMETIC OPERATORS AND THEIR FUNCTIONS



Operators	Function
+	Used for addition of two or more numbers
-	Used for subtraction of two or more numbers
*	Used for multiply two or more numbers
/	Used two divide numbers
%	this operator is used to get remainders

C++ basic operators and their functions

- These are used for all kind of **numeric data**.
- "%" is also called **modulus operator** it can be use only with integers.
- **Unary operators** has higher precedence as compared to binary operators.
- 3.Multiplication(*) and Division(/) as higher priority than addition(+) and subtraction(-) where addition and division has equal priority.

Modes of Arithmetic Expressions

- 1.1.Mixed arithmetic
2. 2.Real arithmetic
3. 3.Integer arithmetic

1-Integer arithmetic mode

In this mode when arithmetic operation perform by using integer values it **always result an integer value**.

for example:

a=5 , b=5

a*b=25 , a/b=1 , a+b=10 , a-b=0



2-Real arithmetic mode

In this mode when a arithmetic operation is performed by using

floating point numbers **it always result an floating value.**

a=10.0 , b=5.0

a*b=50.0 a/b=2.0 a+b=15.0 a-b=5.0

3-Mixed arithmetic mode

In this mode when an arithmetic operation performed on float and integer values **it always result a float value.**

For example:

a=10 , b=5.0

a*b=50.0, a/b=2.0, a+b=15.0, a-b=5.0

Example

```
int x = 100 + 50;
```

Although the **+** operator is often used to add together two values, like in the example above, it can also be used to add together a variable and a value, or a variable and another variable:

Example

```
int sum1 = 100 + 50;           // 150 (100 + 50)
int sum2 = sum1 + 250;         // 400 (150 + 250)
int sum3 = sum2 + sum2;        // 800 (400 + 400)
```

REFERENCE FROM : <https://fahad-cprogramming.blogspot.com/2011/08/expressions-and-operators-in-c.html>