EDUCBA
(https://www.educba.com/software-development/)

← (https://www.educba.com/tokens-in-c/)

→ (https://www.educba.com/regular-expression-in-c/)

Introduction to Expression in C

An expression in C is defined as 2 or more operands are connected by one operator and can also be said to a formula to perform any operation. An operand is a function reference, an array element, a variable, or any constant. An operator is symbols like “+”, “-“, “/”, “*” etc.

EDUCBA
(https://www.educba.com/software-development/)
Web development, programming languages, Software testing & others

A*B

In the above expression multiplication symbol (*) is said to be an operator and A and B are said to be 2 operands.

Types of Expression in C

There are 4 types of expressions:

1. Arithmetic expressions
2. Relational expressions
3. Logical expressions
4. Conditional expressions

Every expression of these 4 types takes certain types of operands and used a specific type of operators. The result of this expression operation produces a specific value.

Example:

addition=(12/5)+(A-B);

From this line after equal operator(=) is an expression((12/5)+(A-B)) and total line is said to be a statement(addition=(12/5)+(A-B);).

How does Expressions works in C?

Expressions in C are built from combinations of operators, let's see them as described below.

EDUCBA
(https://www.educba.com/software-development/)

⚡ Popular Course in this category

LEARN from Home

C Programming Training (3 Courses, 5 Project)

3 Online Courses | 5 Hands-on Projects | 34+ Hours | Verifiable Certificate of Completion | Lifetime Access

★★★★★ 4.5 (8,618 ratings)

Course Price

$79 ~~$399~~

View Course

(https://www.educba.com/software-development/courses/c-programming-course/?btnz=edu-blg-inline-banner1)

Related Courses

C++ Training (4 Courses, 5 Projects, 4 Quizzes) (https://www.educba.com/software-development/courses/c-course/?btnz=edu-blg-inline-banner1)

Java Training (40 Courses, 29 Projects, 4 Quizzes) (https://www.educba.com/software-development/courses/java-course/?btnz=edu-blg-inline-banner1)

Syntax:

QUIZ

```
A+B;
A-B;
A*B;
```

(https://www.educba.com/software-development/)

Code:

```
//used to include basic C libraries
#include <stdio.h>
//main method for run c application
int main()
{
//declaring variables
int a,b,result;
//Asking the user to enter 2 numbers
printf("Enter 2 numbers for Arithmetic operation \n");
//Storing 2 numbers in varaibles a and b
scanf("%d\n%d",&a,&b);
//Arithmetic operations and its result displaying
result = a+b;
printf("================ARITHMETIC EXPRESSIONS==============\n");
printf("Addition of %d and %d is = %d \n",a,b,result);
result = a-b;
printf("Subtraction of %d and %d is = %d \n",a,b,result);
result = a*b;
printf("Multiplication of %d and %d is = %d \n",a,b,result);
result = a/b;
printf("Division of %d and %d is = %d \n",a,b,result);
result = a%b;
printf("Modulus(Remainder) when %d divided by %d = %d
\n",a,b,result);
```

EDUCBA
(https://www.educba.com/software-development/)

```
printf("Pre increment of %d is = %d \n",c,result);
result=a--;
printf("Post decrement of %d  is = %d \n",c,result);
result=--a;
printf("Pre decrement of %d is = %d \n",c,result);
printf("=========================================");
return 0;
}
```

Output:

```
Enter 2 numbers for Arithmetic operation
10
5
===============ARITHMETIC EXPRESSIONS=======
Addition of 10 and 5 is = 15
Subtraction of 10 and 5 is = 5
Multiplication of 10 and 5 is = 50
Division of 10 and 5 is = 2
Modulus(Remainder) when 10 divided by 5 = 0
Post Increment of 10 is = 10
Pre Increment of 10 is = 12
Post decrement of 10  is = 12
Pre decrement of 10 is = 10
=========================================
```

2. Relational Expressions

== (equal to), != (not equal to), != (not equal to), > (greater than), < (less than), >= (great
or equal to), <= (less than or equal to) operators are said to “Relational expressions”.This operators works in between operands. Used for comparing purpose. Like A==B, A!=B, A>B,

(https://www.educba.com/software-development/)

```
A!=B;
A<B;
A>B;
```

Example:

Code:

```
//used to include basic C libraries
#include <stdio.h>
//include boolean library in c
#include <stdbool.h>
//main method for run c application
int main()
{
//declaring variables
int a,b;
bool result;
//Realational Expressions and its result displaying
printf("================RELATIONAL EXPRESSIONS==============\n");
//equal expression
a=10, b=10;

result=(a==b);
if(result)
{
```

EDUCBA
(https://www.educba.com/software-development/)

```
result=(a!=b);
if(result)
{
printf("%d and %d are not equal\n",a,b);
}
//greater expression
a=10, b=20;
result=(a<b);
if(result)
{
printf("%d is greater than %d\n",a,b);
}
//lesser expression
b=10, a=20;
result=(a>b);
if(result)
{
printf("%d is less than %d\n",b,a);
}
printf("=========================================");
return 0;
}
```

Output:

```
==============RELATIONAL EXPRESSIONS==============
10 and 10 are equal
```

(https://www.educba.com/software-development/)

&&(Logical and), ||(Logical or) and !(Logical not) operators are said to “Logical expressions”. Used to perform a logical operation. This operator works in between operands. Like A&&B, A||B,A!B etc.

Syntax:

```
A&&B;
A||B;
A!B;
```

Example:

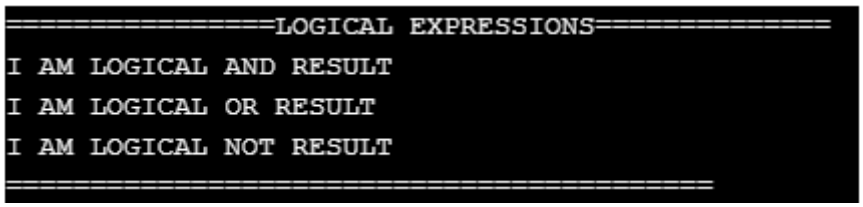
Code:

```
//used to include basic C libraries
#include <stdio.h>
//include boolean library in c
#include <stdbool.h>
//main method for run c application
int main()
{
//declaring variables
int a,b;
bool result;
//Logical Expressions and its result displaying
printf("================LOGICAL EXPRESSIONS==============\n");
```

EDUCBA
(https://www.educba.com/software-development/)

```
{
printf("I AM LOGICAL AND RESULT\n");
}
//logical or(||) expression
a=10, b=5;
result=(a>10||b>4);
if(result)
{
printf("I AM LOGICAL OR RESULT\n");
}
//logical not(!) expression
a=10, b=5;
result=(!(a==20));
if(result)
{
printf("I AM LOGICAL NOT RESULT\n");
}
printf("=========================================");
return 0;
}
```

Output:



EDUCBA
(https://www.educba.com/software-development/)

expression2 and if it is false then execute expression3. Like (A>B)? A is Big : B is Big .

Syntax:

```
(X+2=10)?'true':'false';
```

Example:

Code:

```
//used to include basic C libraries
#include <stdio.h>
//include boolean library in c
#include <stdbool.h>
//main method for run c application
int main()
{
//declaring variables
int a,b;
char result;
//Asking the user to enter a number
printf("Enter a number for conditional operation=>");
//Storing a number in varaibles a

scanf("%d",&a);
//Realational Expressions and its result displaying
printf("================CONDITIONAL EXPRESSIONS==============\n");
```

QUIZ

(https://www.educba.com/software-development/)

```
printf("YOU ARE ELIGIBLE FOR VOTER ID\n");
}
else
{
printf("YOU ARE NOT ELIGIBLE FOR VOTER ID\n");
}
printf("=========================================");
return 0;
}
```

Output:

```
Enter a number for conditional operation=> 19
================CONDITIONAL EXPRESSIONS==============
YOU ARE ELIGIBLE FOR VOTER ID
=========================================
```

```
Enter a number for conditional operation=> 15
================CONDITIONAL EXPRESSIONS==============
YOU ARE NOT ELIGIBLE FOR VOTER ID
=========================================
```

Conclusion

Expression in C is said to be a formula which is formed 2 or more operands and one ope

Arithmetic expressions, Logical expressions, Conditional expressions and Relational expressions are some of the expressions in C.

(https://www.educba.com/software-development/)

other suggested articles to learn more –

1. Prime Numbers in C (https://www.educba.com/prime-numbers-in-c/)
2. Reverse Number in C (https://www.educba.com/reverse-number-in-c/)
3. Regular Expression in C (https://www.educba.com/regular-expression-in-c/)
4. Regular Expression in C# (https://www.educba.com/regular-expression-in-c-sharp/)

C PROGRAMMING TRAINING (3 COURSES, 5 PROJECT)

- ☑ 3 Online Courses
- ☑ 5 Hands-on Projects
- ☑ 34+ Hours
- ☑ Verifiable Certificate of Completion
- ☑ Lifetime Access

Learn More

(https://www.educba.com/software-development/courses/c-programming-course/?btnz=edu-blg-inline-banner3)

EDUCBA
(https://www.educba.com/software-development/)

Sign Up (https://www.educba.com/software-development/signup/?source=footer)

Corporate Training (https://www.educba.com/corporate/?source=footer)

Certificate from Top Institutions (https://www.educba.com/educbalive/?source=footer)

Contact Us (https://www.educba.com/contact-us/?source=footer)

Verifiable Certificate (https://www.educba.com/software-development/verifiable-certificate/?source=footer)

Reviews (https://www.educba.com/software-development/reviews/?source=footer)

Terms and Conditions (https://www.educba.com/terms-and-conditions/?source=footer)

Privacy Policy (https://www.educba.com/privacy-policy/?source=footer)

Apps

iPhone & iPad (https://itunes.apple.com/in/app/educba-learning-app/id1341654580?mt=8)

Android (https://play.google.com/store/apps/details?id=com.educba.www)

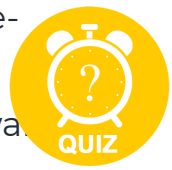
Resources

Free Courses (https://www.educba.com/software-development/free-courses/?source=footer)

Java Tutorials (https://www.educba.com/software-development/software-development-tutorials/java-tutorial/?source=footer)

Python Tutorials (https://www.educba.com/software-development/software-development-tutorials/python-tutorial/?source=footer)

All Tutorials (https://www.educba.com/software-development/software-development-tutorials/?source=footer)



(https://www.educba.com/software-development/)

development-course/?source=footer)

Become a Python Developer (https://www.educba.com/software-development/courses/python-certification-course/?source=footer)

Java Course (https://www.educba.com/software-development/courses/java-course/?source=footer)

Become a Selenium Automation Tester (https://www.educba.com/software-development/courses/selenium-training-certification/?source=footer)

Become an IoT Developer (https://www.educba.com/software-development/courses/iot-course/?source=footer)

ASP.NET Course (https://www.educba.com/software-development/courses/asp-net-course/?source=footer)

VB.NET Course (https://www.educba.com/software-development/courses/vb-net-course/?source=footer)

PHP Course (https://www.educba.com/software-development/courses/php-course/?source=footer)

© 2022 - EDUCBA. ALL RIGHTS RESERVED. THE CERTIFICATION NAMES ARE THE TRADEMARKS OF THEIR RESPECTIVE OWNERS.