

16. Conditional Operator

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Conditional Operator

- Conditional Operator is a ternary operator with the following syntax :
$$(expression1) ? (expression2) : (expression3)$$

Operation and Value

- Computes *expression1* and checks its value,
 1. If it is True, computes *expression2* and the value of overall expression will be same as value of *expression2*
 2. If False, computes *expression3* and the value of overall expression will be same as value of *expression3*

Conditional Operator

- Conditional Operator is a ternary operator with the following syntax :

(expression1) ? (expression2) : (expression3)

Example: `int pension = ((age >= 60)? 7000 : 0);`

- Computes `(age >= 60)` and checks its value,
 1. If it is True (1), value `7000` is assigned to pension variable
 2. If False (0), value `0` is assigned to pension variable

Conditional Operator

- Conditional Operator is a ternary operator with the following syntax :

(expression1) ? (expression2) : (expression3)

Example: `char isEven = (((num % 2) == 0)? 'y' : 'n');`

- Computes `((num % 2) == 0)` and checks its value,
 1. If it is True (1), value 'y' is assigned to isEven variable
 2. If False (0), value 'n' is assigned to isEven variable

Example

Write a program which takes two distinct integers as input from user and prints the maximum.

Input :

3

2

Output :

3

Input :

-2

27

Output :

27

Example

Write a program which takes two distinct integers as input from user and prints the maximum of the two.

```
#include <iostream.h>
#include <conio.h>

int main() {
    clrscr();
    int num1, num2;
    cout << "Enter numbers : ";
    cin >> num1 >> num2;
    int max = ((num1 > num2)? num1 : num2);
    cout << "Maximum is : " << max;
    getch();
    return 0;
}
```

Operator Precedence

Consider the following statement :

```
int x = 2 * 3 + 5 ;
```

What value will be assigned to x?

$((2 * 3) + 5) = 11$ ✓

or

$(2 * (3 + 5)) = 16$

The reason is that $*$ operator has higher precedence than $+$ operator.

(We will study about more such rules in the next video)

Tip : To avoid such confusions, always use brackets for writing your expressions unambiguously

Exercise

Write a program which takes three distinct integers as input from user and prints the maximum.

Input :

3

2

1

Output :

3

Input :

-2

27

55

Output :

55

What's ahead?

In the next video, we will study about operator precedence and associativity