

Tutorial Link https://codequotient.com/tutorials/Conditional Operator/5a22a02bc66cfe38f2962242

TUTORIAL

Conditional Operator

Chapter

1. Conditional Operator

This is an operator defined as an quick way for short if-else constructs. It has following form: -

```
exprl ? expr2 : expr3;
```

All are expression, which will be executed. In this, expr1 will be evaluated as a condition, if it evaluates to true, expr2 will be executed, otherwise expr3 will be executed. The above code is another form of following if-else block: -

```
if(expr1)
  expr2;
else
  expr3;
```

So, conditional operator is a kind of compact form to represent some if-else constructs. For example,

```
#include <stdio.h>
2
   int main()
3
   {
4
      int marks = 49;
5
      char grade;
6
      if(marks >= 40)
7
      {
8
        grade='P';
9
      }
10
     else
11
      {
12
        grade='F';
13
14
      printf("You got %c grade.",grade);
15
      return 0;
16
   }
17
18
```

The above program can be written as:

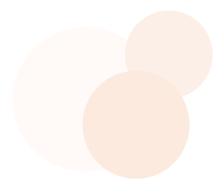
```
#include <stdio.h>
1
                                                          C
2
   int main()
3
4
     int marks = 49;
5
     char grade;
6
7
                                              // if-else
     grade = (marks >= 40) ? 'P' : 'F';
8
   as conditional operator.
9
     printf("You got %c grade.",grade);
10
     return 0;
11
   }
12
13
```

It is quite useful sometimes to write with conditional operator instead the if-else block as it makes the code compact and easy to read. We can make the things bit complicated to write nested if or nested if-else using conditional operators. One example to illustrate the use is:

```
#include <stdio.h>
1
2
   int main()
3
   {
4
      int marks = 57;
5
      char grade;
6
7
      if(marks >= 40)
8
      {
9
        if(marks < 60)
10
11
          grade = 'B';
12
13
        else
14
15
          grade = 'A';
16
        }
17
      }
18
      else
19
      {
20
        grade = 'F';
21
22
      printf("You got %c grade.",grade);
23
      return 0;
24
   }
25
26
```

The above program can be written with nested conditional operators as:

```
#include <stdio.h>
                                                              C
2
   int main()
3
4
      int marks = 7;
5
      char grade;
6
7
     grade = (marks >= 40) ? (marks < 60) ? 'B' :
8
    'F<sup>-</sup>;
9
      printf("You got %c grade.",grade);
10
      return 0;
11
12
13
```



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