C++ CONDITIONAL ? : OPERATOR


```
Exp1 ? Exp2 : Exp3;
```

where Exp1, Exp2, and Exp3 are expressions. Notice the use and placement of the colon. The value of a ? expression is determined like this: Exp1 is evaluated. If it is true, then Exp2 is evaluated and becomes the value of the entire ? expression. If Exp1 is false, then Exp3 is evaluated and its value becomes the value of the expression.

The ? is called a ternary operator because it requires three operands and can be used to replace if-else statements, which have the following form:

```
if(condition){
   var = X;
}else{
   var = Y;
}
```

For example, consider the following code:

```
if(y < 10){
   var = 30;
}else{
   var = 40;
}
```

Above code can be rewritten like this:

```
var = (y < 10) ? 30 : 40;
```

Here, x is assigned the value of 30 if y is less than 10 and 40 if it is not. You can the try following example:

```
#include <iostream>
using namespace std;

int main ()
{
   // Local variable declaration:
   int x, y = 10;

   x = (y < 10) ? 30 : 40;

   cout << "value of x: " << x << endl;

   return 0;
}
```

When the above code is compiled and executed, it produces the following result:

```
value of x: 40
```