

# MA122 - Computer Programming and Applications

Indian Institute of Space Science and Technology

February 09, 2017

# Lecture 11

MA122 -  
Computer  
Programming  
and  
Applications

Relational  
Operators

Operator  
Precedence

Conditional  
Operator

Error/output

**1** Relational Operators

2 Operator Precedence

3 Conditional Operator

4 Error/output

# Relational Operators

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Operator	Description
$\neq$	Not equal to
$<$	Less than
$>$	Greater than
$\leq$	Less than or equal to
$\geq$	Greater than or equal to
$==$	Equal to

# equality and assignment

```
1 // equal.cpp -- equality vs assignment
2 #include <iostream>
3 int main()
4 {
5     using namespace std;
6     int quizscores[10] =
7     { 20, 20, 20, 20, 20, 19, 20, 18, 20, 20};
8     cout << "Doing it right:\n";
9     int i;
10    for (i = 0; quizscores[i] == 20; i++)
11        cout << "quiz " << i << " is a 20\n";
12    // Warning: you may prefer reading about this
13    // program
14    // to actually running it.
15    cout << "Doing it dangerously wrong:\n";
16    for (i = 0; quizscores[i] = 20; i++)
17        cout << "quiz " << i << " is a 20\n";
18    return 0;
```

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# Operator Precedence

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Precedence	Operator	Description	Associativity
2	++	Postfix increment	L-R
	--	Postfix decrement	
3	++	Prefix increment	R-L
	--	Prefix decrement	
5	*	Multiply	L-R
	/	Divide	
	%	Modulo	
6	+	Addition	L-R
	-	Subtraction	

# Operator Precedence

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Precedence	Operator	Description	Associativity
8	<	Less than	L-R
	<=	Less than or equal to	
	>=	greater than equal to	
	>	Greater than	
9	==	Equal to	L-R
	!=	Not equal to	
13	&&	Logical AND	L-R
14		Logical OR	L-R

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Precedence	Operator	Description	Associativity
15	:?	Conditional	R-L
16	=	Simple assignment	R-L
	* =	Multiply and assign	
	/ =	Divide and assign	
	% =	modulo and assign	
	+ =	Add and assign	
	- =	Subtract and assign	



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# Conditional Operator

```
1 // -- using the conditional operator
2 #include <iostream>
3 int main()
4 {
5     using namespace std;
6     int a, b;
7     cout << "Enter two integers: ";
8
9     cin >> a >> b;
10    cout << "The larger of " << a << " and " << b;
11
12    int c = a > b ? a : b; // c = a if a > b, else c = b
13    cout << " is " << c << endl;
14
15    return 0;
16 }
```

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# Find the error

List the errors in the following program

```
1 #include <iostream>;
2 int main
3 {
4     // prints "n=22";
5     n = 22;
6     cout << "n = << n << endl;
7     return 0;
8 }
```

# Find the error

What is wrong with the following loop:

```
1 while (n <= 100)
2   sum += n*n;
```

# Output

What values does the following program print?

```
1 #include<iostream>
2 int main()
3 {
4     using namespace std;
5     cout<<2*3/4+3/3+7-1+6/7<<endl;
6     int a=10;
7     int b=11;
8     a=a+=b+=a;
9     cout<<a<<endl;
10    return 0;
11 }
```