

Operators In C

Arithmetic Operators

a) + used for addition

b) - used for subtraction

c) * used for multiplication

d) / used for division

if both operands are integer the result will be integer

e.g: $11/3 = 3$

but $11/3.0 = 3.6666$

e) % used to find remainder after division e.g: $11 \% 3 = 2$

f) ++ used for increment

Example:

```
int a = 5; a++; //a=a+1  
printf ("a = %d", a); //a = 6
```

g) -- used for decrement

Example:

```
int a=5;  
a--; //a = a-1  
printf("a = %d", a); //a = 4
```

- **Postfix and Prefix**

- ++, -- operator can be used both as postfix and prefix.

- **Example**

```
int a = 5, b = 5, c, d;
```

```
c = ++a;           //a = a+1; c = a
```

```
printf("a = %d", a); //a = 6
```

```
printf("c = %d", c); //c = 6
```

```
d = b++;          //d = b; b = b+1
```

```
printf("b = %d", b); //b = 6
```

```
printf("d = %d", d); //d = 5
```

similarly for -- operator.

The other five arithmetic operators

- The other five arithmetic operators are : +=, -=, *=, /=, %=

a) a += b; //a = a + b

b) a -= b; //a = a - b

c) a *= b; //a = a * b

d) a /= b; //a = a / b

e) a %= b; //a = a % b

Relational Operators

- There are six relational operators. They are $<$, $<=$, $>$, $>=$, $==$, $!=$
- $==$ is used to check equality.
- $!=$ is used for not equal.
- When we are using $=$ for assignment.
- The result of a relational expression is 0 (FALSE) or 1 (TRUE)

Example: `int a = 5, b = 6;`

<code>(a<b)</code>	gives 1	<code>(a<=b)</code>	gives 1	<code>(a<=5)</code>	gives 1
<code>(a>b)</code>	gives 0	<code>(a>=b)</code>	gives 0	<code>(a>=5)</code>	gives 1
<code>(a==b)</code>	gives 0	<code>(a!=b)</code>	gives 1.	<code>(a==5)</code>	gives 1

Logical Operators

- There are three logical operators: They are &&, ||, !
- && used for “and”
- || used for “or”
- ! used for “not”
- EXAMPLE:

```
int a = 5, b = 6;
```

```
((a<b) && (a>0)) gives 1
```

```
((a>b) || (b>7)) gives 0
```

```
(!(a<b)) gives 0
```

```
((a<b) && (b>7)) gives 0
```

```
((a<b) || (b>7)) gives 1
```

```
(!(b>7)) gives 1
```