

C OPERATORS

TYPES



- **Arithmetic operator** (+,-,*,/,%)
- **Relational operator** (>,<,>=,<=,==,!=)
- **Shift operator** (>>,<<)
- **logical Operator** (&&,||,!)
- **Bitwise operator** (&,|,^)
- **Assignment operator** (+=,-=,*=,/=,%=)
- **Conditional operator** (?:)
- **Misc operator** (sizeof())

ARITHMETIC OPERATOR



```
#include<stdio.h>
#include<conio.h>
void main() {
int a,b,c;
clrscr();
scanf("%d",&a);
scanf("%d",&b);
c=a+b;  // -, *, /, %
printf("%d",c);
getch();
}
```

RELATIONAL OPERATOR



```
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c;
clrscr();
scanf("%d",&a);
scanf("%d",&b);
c=a>b; // < , >=, <=, ==, !=
printf("%d",c);
getch();
}
```

LOGICAL OPERATOR



AND Gate



INPUT		OUTPUT
A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

OR Gate



INPUT		OUTPUT
A	B	F
0	0	0
0	1	1
1	0	1
1	1	1

TRUTH TABLE

INPUT	OUTPUT
X	Z
0	1
1	0

Example



```
void main()
{
int a=1,b=2,c;
clrscr();
c=a&&b;  //  ||(OR), ! (NOT)
printf("%d",c);
getch();
}
```

Bitwise Operator



```
void main()
{
int a,b,c;
clrscr();
scanf("%d%d",&a,&b);
c=a&b; //&,&|^
printf("%d",c);
getch();
}
```

WORKING :

a=6 1 1 0 (AND)

b=6 1 1 0

Ans 1 1 0 =6

a=8 1 0 0 0 (OR)

b=10 1 0 1 0

Ans 1 0 1 0 =A

Shift Operator



```
void main()
{
int a,b,n=2;
clrscr();
scanf("%d",&a);
b=n|1<<a;
printf("%d",b);
getch();
}
```

Working:

1<<2 -> 1 0 0

1<<4 -> 1 0 0 0 0

Unary Operators



++ Increment

-- Decrement

a++ =post increment

++a =pre increment

a-- =post decrement

--a =pre decrement

a=5;

a++ =5

++a =6

a-- =5

--a =4

Unary Operators Example



```
void main()
{
int a=-5;
clrscr();
printf("%d %d %d %d",++a,a++,--a,a--);
getch();
}
```

Assignment Operator



`a+=b` -> `a=a+b`

`a-=b` -> `a=a-b`

`b*=a` -> `b=b*a`

`b/=a` -> `b=b/a`

`c%=a` -> `c=c%a`

Example :

```
void main()
{
int a=1,b=2;
clrscr();
a+=b;
printf("%d",a);
getch();
}
```

Conditional Operator



Syntax:

(condition)? True:flase;

Example :

a>b?printf("Greater=%d",a):printf("Greater=%d",b);

Misc Operator



Syntax:

sizeof(variable);

```
void main()  
{  
int a;  
clrscr();  
printf("%d",sizeof(a));  
getch();  
}
```

Queries?



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