lesson 36 Bitwise operator XOR

```
int x= 5 , y= 6 ;
int z= x ^ y;
```

64	32	16	8	4	2	1	
0	0	0	0	1	0	1	x in binary
0	0	0	0	1	1	0	y in binary
0	0	0	0	0	1	1	x ^ y

To express the **XOR** operation we use **^**

1^1 = 0

1^0 = 1

0^1 = 1

```
int x = 11, y = 3;
int z = x ^ y;
```

64	32	16	8	4	2	1
0	0	0	1	0	1	1
0	0	0	0	0	1	1
0	0	0	1	0	0	0

The result is going to be 8, you can check by converting the x^y binary form to decimal number.

Example :

```
int x = 5, y = 7;
x = x ^ y;
y = x ^ y;
x = x ^ y;
printf("x=%d ,y=%d", x, y);
```

output:

x=7 ,y=5

Try the code: Click Here!

Explication of the code :

x= 5

y = 7

first step :

x=x^y

64	32	16	8	4	2	1

0	0	0	0	1	0	1
0	0	0	0	1	1	1
0	0	0	0	0	1	0

The result is 2

so now x=2.

Second step

y=x^y

64	32	16	8	4	2	1
0	0	0	0	0	1	0
0	0	0	0	1	1	1
0	0	0	0	1	0	1

The result is 5

so now Y=5 .

Third Step :

x=y^x

64	32	16	8	4	2	1
0	0	0	0	0	1	0
0	0	0	0	1	0	1

0	0	0	0	1	1	1

The result is 7

So now x=7