lesson 37 bitwise Operator LEFT SHIFT

LEFT SHIFT, takes two numbers, left shifts the bits of the first operand(number), the second operand decides the number of places to shift.

```
int x=5;

int z = x <<1 ;
```

5 in binary equals 1 0 1

Here we are going to move the binary numbers of 5 to the left and the number of bits we are going to move is 1.

64	32	16	8	4	2	1	
0	0	0	0	1	0	1	→ x in binary
0	0	0	1	0	1	0	← x << 1

1 0 1 0 to decimal is 10

example 2 :

```
int x=6;

int z= x<<2;
```

64	32	16	8	4	2	1	
0	0	0	0	1	1	0	– x in binary
0	0	0	1	1	0	0	– x << 1

We moved the binary bits of 6 to the left, now we have 1 1 0 0 (2)) = 24 (base10)

We can conclude that the result = **x * 2^y**

example 3 :

```
int x= 5 ;
int z = x << 4 ;
```

z = x * 2^4 = 5*2^4 = 80