

C Bitwise Operator Masking

Bitwise Operations & Masking in C Programming -

Masking is the process or operation to set bit on to off or off to on, in a byte, nibble or word.

1. Mask means to block.
2. Masking is the process by which, only required data is retained and the rest is masked (blocked).
3. Masking can be done using Bitwise Operators
4. Most Commonly Used Bitwise Operator is AND (&).

* Marking bits to 1 :-

1. In this case we need to retain the particular data.
2. Bitwise OR operation is used for marking bits to 1.

Truth Table for Bitwise OR -

Bit 1	Bit 2	Bitwise OR
0	0	0
1	1	1
0	1	1
1	0	1

Live Example: Masking Bits to 1

```

10011101 10010101
00001000 00001000 OR
10011101 10011101

```

* Masking bits to 0 :-

In this case we need to remove data By marking it to 0.

Truth table for Bitwise AND -

Bit 1	Bit 2	Bitwise AND
0	0	0
1	1	1
0	1	0
1	0	0

Masking or Hiding the Last 4 LSB Bits

Process of masking: we want Last 4 LSB Bits, So mask it with (0000 0000 0000 1111).

```

Num 1 : 1000 0001 1110 1011
& : 0000 0000 0000 1111

```

Result : 0000 0000 0000 1011

{Here, First 12 Bits are Masked.}