

Compute modulus division by a power-of-2-number

Compute n modulo d without division(/) and modulo(%) operators, where d is a power of 2 number.

Let i th bit from right is set in d . For getting n modulus d , we just need to return 0 to $i-1$ (from right) bits of n as they are and other bits as 0.

For example if $n = 6$ (00..110) and $d = 4$ (00..100). Last set bit in d is at position 3 (from right side). So we need to return last two bits of n as they are and other bits as 0, i.e., 00..010.

Now doing it is so easy, guess it....

Yes, you have guessing it right. See the below program.

```
#include<stdio.h>

/* This function will return n % d.
   d must be one of: 1, 2, 4, 8, 16, 32, ... */
unsigned int getModulo(unsigned int n, unsigned int d)
{
    return ( n & (d-1) );
}

/* Driver program to test above function */
int main()
{
    unsigned int n = 6;
    unsigned int d = 4; /*d must be a power of 2*/
    printf("%u moduo %u is %u", n, d, getModulo(n, d));

    getchar();
    return 0;
}
```

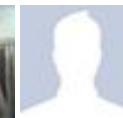
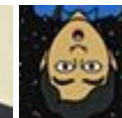
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References:

<http://graphics.stanford.edu/~seander/bithacks.html#ModulusDivisionEasy>

Please write comments if you find any bug in the above program/algorithm or other ways to solve the same problem.

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I was trying to find division and modulus of two positive numbers without / and

Here is the code.

Let me know if this doesn't work for any ALLOWED value.

```
#include <stdio.h>

int main(){
    int x = 238; // +ve value
    int y = 16; // +ve value

    int rem = x; // x%y
    int tmp = y;

    int div = 0; // x/y
    int tmp2 = 1;

    if(rem < tmp){
```

see more

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