```cpp
#include<bits/stdc++.h>
using namespace std;
/*
    Exponent (m)^n
    power:

    2^5 = 2 * 2 * 2 * 2 * 2

    (m)^n = m * m * m * ..... * (n-1) times * m

    pow(m, n) = pow(m, n-1) * m;
*/
int pow(int m, int n)
{
    if(n == 0)
        return 1;
    else{

        return pow(m, n-1) * m;
    }

}
/*
        pow(2, 5)       => 32
        |
        pow(2, 4) * 2 => 16 * 2
        |
        pow(2, 3) * 2 => 8 * 2
        |
        pow(2, 2) * 2 => 4 * 2
        |
        pow(2, 1) * 2 => 2 * 2
        |
        pow(2, 0) * 2 => 1 * 2
        |
        x return 1

*/
int powM(int m, int n)
{
    if(n == 0)
        return 1;
    if(n % 2 == 0)
    {
        return powM(m*m, n/2);
    }
    else{
        return powM(m*m, (n-1)/2) * m;
    }

}
/*
        pow(2, 5)       2^5 => 32
```

```
54          |
55          pow(2*2, 4/2) * 2;      => 2^4 * 2
56          |
57          pow(2^2 * 2^2, 2/2 );  => 2^4
58          |
59          pow(2^4 * 2^4, 0/2) * 2^4; => 1 * 2^4
60          |
61          return 1
62
63  */
64  int main()
65  {
66      int m, n;
67      m = 2;
68      n = 5;
69
70      cout << pow(m, n);
71
72      cout << powM(m, n);
73
74  }
```