

Input Format for Custom Testing

Input from stdin will be processed as follows and passed to the function.

The only line contains an integer, number.

Sample Case 0

Sample Input 0

STDIN Function

32 → number = 32

Sample Output 0

0

Explanation 0

- Convert the decimal number 32 to binary number: $32_{10} = (100000)_2$.
- The value of the 4th index from the right in the binary representation is 0.

Sample Case 1

Ac
Go

Sample Input 1

STDIN Function

77 -- number = 77

Sample Output 1

1

Explanation 1

- Convert the decimal number 77 to binary number: $77_{10} = (1001101)_2$.
- The value of the 4th index from the right in the binary representation is 1.

Answer: (penalty regime: 0 %)

Reset answer

Ace editor not ready. Perhaps reload page?

Falling back to raw text area.

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```
/*
 * Complete the 'fourthBit' function below.
 *
 * The function is expected to return an INTEGER.
 * The function accepts INTEGER number as parameter.
 */
int fourthBit(int number)
{
    int binary [32];

    int i=0;

    while (number>0)
    {
```

	Test	Expected	Got	
✓	printf("%d", fourthBit(32))	0	0	✓
✓	printf("%d", fourthBit(77))	1	1	✓

Passed all tests! ✓

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Question 2

Correct

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1.00[Flag question](#)

Determine the factors of a number (i.e., all positive integer values that evenly divide into a number) and then return the p^{th} element of the list, sorted ascending. If there is no p^{th} element, return 0.

Example $n = 20$ $p = 3$

The factors of 20 in ascending order are (1, 2, 4, 5, 10, 20). Using 1-based indexing, if $p = 3$, then 4 is returned. If $p > 6$, 0 would be returned.

Function Description

Complete the function `pthFactor` in the editor below.

`pthFactor` has the following parameter(s):

`int n`: the integer whose factors are to be found

`int p`: the index of the factor to be returned

Returns:

`int`: the long integer value of the p^{th} integer factor of n or, if there is no factor at that index, then 0 is returned

Constraints $1 \leq n \leq 10^{15}$ $1 \leq p \leq 10^9$

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Input Format for Custom Testing

Input from stdin will be processed as follows and passed to the function.

The first line contains an integer n , the number to factor.

The second line contains an integer p , the 1-based index of the factor to return.

Sample Case 0

Sample Input 0

STDIN	Function
-------	----------

-----	-----
-------	-------

10	→ $n = 10$
----	------------

3	→ $p = 3$
---	-----------

Sample Output 0

5

Explanation 0

Factoring $n = 10$ results in $\{1, 2, 5, 10\}$. Return the $p = 3^{\text{rd}}$ factor, 5, as the answer.

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Sample Case 1

Sample Input 1

STDIN Function

10 → $n = 10$

5 → $p = 5$

Sample Output 1

0

Explanation 1

Factoring $n = 10$ results in $\{1, 2, 5, 10\}$. There are only 4 factors and $p = 5$, therefore 0 is returned as the answer.

Sample Case 2

Sample Input 2

STDIN Function

1 → $n = 1$

1 → $p = 1$

Sample Output 2

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1

Explanation 2

Factoring $n = 1$ results in $[1]$. The $p = 1$ st factor of 1 is returned as the answer.

Answer: (penalty regime: 0 %)

Reset answer

Ace editor not ready. Perhaps reload page?

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```
long pthFactor (long n, long p)
{
    int count=0;
    for(long i=1;i<=n; ++i)
    {
        if(n%i==0)
        {
            count++;
            if(count==p)
```

```
        if(n%i==0)
        {
            count++;
            if(count==p)
            {
                return i;}
        }
    }
    return 0;}
```

	Test	Expected	Got	
✓	printf("%ld", pthFactor(10, 3))	5	5	✓
✓	printf("%ld", pthFactor(10, 5))	0	0	✓
✓	printf("%ld", pthFactor(1, 1))	1	1	✓

Passed all tests: ✓

Question 1

Correct

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You are a bank account hacker. Initially you have 1 rupee in your account, and you want exactly N rupees in your account. You wrote two hacks, first hack can multiply the amount of money you own by 10, while the second can multiply it by 20. These hacks can be used any number of time. Can you achieve the desired amount N using these hacks.

Constraints:

$$1 \leq T \leq 100$$

$$1 \leq N \leq 10^{12}$$

Input

- The test case contains a single integer N .

Output

For each test case, print a single line containing the string "1" if you can make exactly N rupees or "0" otherwise.

SAMPLE INPUT

1

SAMPLE OUTPUT

1

SAMPLE INPUT

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SAMPLE OUTPUT

0

Answer: (penalty regime: 0 %)

Reset answer

```

1. /*
2.  * Complete the 'myFunc' function below.
3.  *
4.  * The function is expected to return an INTEGER.
5.  * The function accepts INTEGER n as parameter.
6.  */
7.
8. int myFunc(int n)
9. {
10.     while(n>1)
11.     {
12.         if(n%200==0)
13.         {
14.             n/=200;
15.         }
16.         else if(n%20==0)
17.         {
18.             n/=20;
19.         }
20.         else if(n%10==0)
21.         {
22.             n/=10;
23.         }
24.         else
25.         {
26.             return 0;
27.         }
28.     }
29.     return (n==1);
30. }
31.

```

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	Test	Expected	Got	
✓	printf("%d", myFunc(1))	1	1	✓
✓	printf("%d", myFunc(2))	0	0	✓
✓	printf("%d", myFunc(10))	1	1	✓
✓	printf("%d", myFunc(25))	0	0	✓
✓	printf("%d", myFunc(200))	1	1	✓

Passed all tests! ✓

Question **2**

Correct

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1.00

🚩 Flag question

Find the number of ways that a given integer, X , can be expressed as the sum of the N^{th} powers of unique, natural numbers.

For example, if $X = 13$ and $N = 2$, we have to find all combinations of unique squares adding up to 13 . The only solution is $2^2 + 3^2$.

Function Description

Complete the `powerSum` function in the editor below. It should return an integer that represents the number of possible combinations.

`powerSum` has the following parameter(s):

X : the integer to sum to

N : the integer power to raise numbers to

Input Format

The first line contains an integer X .

The second line contains an integer N .

Constraints

$$1 \leq X \leq 1000$$

$$2 \leq N \leq 10$$

Output Format

Output a single integer, the number of possible combinations calculated.

Sample Input 0

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10

2

Sample Output 0

1

Explanation 0

If $X = 10$ and $N = 2$, we need to find the number of ways that 10 can be represented as the sum of squares of unique numbers.

$$10 = 1^2 + 3^2$$

This is the only way in which 10 can be expressed as the sum of unique squares.

Sample Input 1

100

2

Sample Output 1

3

Explanation 1

$$100 = (10^2) = (6^2 + 8^2) = (1^2 + 3^2 + 4^2 + 5^2 + 7^2)$$

Sample Input 2

100

3

Sample Output 2

1

Explanation 2

100 can be expressed as the sum of the cubes of **1, 2, 3, 4**.

(1 + 8 + 27 + 64 = 100). There is no other way to express **100** as the sum of cubes.

Answer: (penalty regime: 0 %)

Reset answer

Answer: (Binary system) 0 10

Reset answer

```
1 /*  
2  * Complete the 'powerSum' function below.  
3  *  
4  * The function is expected to return an INTEGER.  
5  * The function accepts following parameters:  
6  * 1. INTEGER x  
7  * 2. INTEGER n  
8  */  
9 #include<stdio.h>  
10 #include<math.h>  
11 int powerSum(int x, int m, int n)  
12 {  
13     int c=0;  
14     int limit = (int)pow(x,1.0/n);  
15     int totalCombinations = 1 << limit;  
16     for(int mask = 0; mask < totalCombinations; mask++)  
17     {  
18         int sum =0;  
19         for(int j=1;j <= limit;j++)  
20         {  
21             if (mask & (1 << (j-1)))  
22             {  
23                 sum += (int)pow(j,n);  
24             }  
25         }  
26         if (sum == x)  
27         {  
28             c++;  
29         }  
30     }  
31     return c;  
32 }  
33
```

Test	Expected	Got	
✓ printf("%d", powerSum(10, 1, 2))	1	1	✓

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