

[Skip to main content](#)

REC-CIS

GE23131-Programming Using C-2024

<b>Status</b>	Finished
<b>Started</b>	Sunday, 17 January 2025, 11:21 PM
<b>Completed</b>	Sunday, 17 January 2025, 11:31 PM
<b>Duration</b>	9 mins 25 secs

Question 1

Correct

Marked out of 1.00

Flag question

Question text

A binary number is a combination of 1s and 0s. Its  $n^{\text{th}}$  least significant digit is the  $n^{\text{th}}$  digit starting from the right starting with 1. Given a decimal number, convert it to binary and determine the value of the  $4^{\text{th}}$  least significant digit.

### Example

number = 23

- Convert the decimal number 23 to binary number:  $23^{10} = 2^4 + 2^2 + 2^1 + 2^0 = (10111)_2$ .
- The value of the  $4^{\text{th}}$  index from the right in the binary representation is 0.

### Function Description

Complete the function fourthBit in the editor below.

fourthBit has the following parameter(s):

int number: a decimal integer

Returns:

int: an integer 0 or 1 matching the 4th least significant digit in the binary representation of number.

### Constraints

$$0 \leq \text{number} < 2^{31}$$

### 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

### 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 %)

```

/*
 * Complete the 'fourthBit' function below.
 *
 * The function is expected to return an INTEGER.
 * The function accepts INTEGER number as parameter.
 */
#include<stdio.h>
int fourthBit(int number)
{
    return (number>>3)&1;
}
int mymain(){
    int number;
    scanf("%d",&number);
    printf("%d\n",fourthBit(number));
    return 0;
}

```

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

Passed all tests! ✓

## Feedback

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

Passed all tests!

## Question 2

Correct

Marked out of 1.00

Flag question

Question text

Determine the factors of a number (i.e., all positive integer values that evenly divide into a number) and then return the  $p^{\text{th}}$  element of the list, sorted ascending. If there is no  $p^{\text{th}}$  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  $p^{\text{th}}$  integer factor of  $n$  or, if there is no factor at that index, then 0 is returned

### Constraints

$$1 \leq n \leq 10^{15}$$

$$1 \leq p \leq 10^9$$

### 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     $\rightarrow$     $n = 10$

3      $\rightarrow$     $p = 3$

##### 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.

#### Sample Case 1

##### Sample Input 1

STDIN      Function

-----

10     $\rightarrow$     $n = 10$

5      $\rightarrow$     $p = 5$

##### 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

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 %)

```

/*
 * Complete the 'pthFactor' function below.
 *
 * The function is expected to return a LONG_INTEGER.
 * The function accepts following parameters:
 * 1. LONG_INTEGER n
 * 2. LONG_INTEGER p
 */

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

```

	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! ✓

## Feedback

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!

## Blocks

[Skip Quiz navigation](#)

Quiz navigation

[Question1This page](#)[Question2This page](#)

[Show one page at a time](#)

## Blocks



