

HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

# E. Little Girl and Maximum XOR

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

A little girl loves problems on bitwise operations very much. Here's one of them.

You are given two integers l and r. Let's consider the values of  $a \oplus b$  for all pairs of integers a and b  $(l \le a \le b \le r)$ . Your task is to find the maximum value among all considered ones.

Expression  $x \oplus y$  means applying bitwise excluding or operation to integers x and y. The given operation exists in all modern programming languages, for example, in languages C++ and Java it is represented as "^", in Pascal — as "xor".

## Input

The single line contains space-separated integers l and r ( $1 \le l \le r \le 10^{18}$ ).

Please, do not use the %11d specifier to read or write 64-bit integers in C++. It is preferred to use the cin, cout streams or the %164d specifier.

#### Output

In a single line print a single integer — the maximum value of  $a \oplus b$  for all pairs of integers a, b ( $l \le a \le b \le r$ ).

# **Examples**

input	Сору
1 2	
output	Сору
3	

input	Сору
8 16	
output	Сору
31	

input	Сору
1 1	
output	Сору
0	

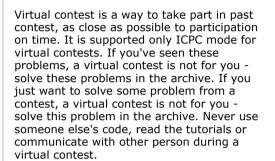
### <u>Topic Stream Mashup: Bitwise</u> <u>Operations</u>

## **Finished**

#### **Practice**



## → Virtual participation



#### Start virtual contest

→ Submit?	
Language:	GNU G++20 13.2 (64 bit, win <b>▽</b>
Choose file:	Choose File No file chosen
	Submit

#### 

×

## → Contest materials

• Topic tutorial video (en)

Codeforces (c) Copyright 2010-2024 Mike Mirzayanov The only programming contests Web 2.0 platform Server time: Jul/05/2024 00:02:34 (h1).

Desktop version, switch to mobile version.

Privacy Policy

Supported by



