

### C. Bitmask Operation (hard)

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

You have a number  $n$  (32 bit signed integer) and  $q$  queries.

- 1: change value of (first bit equal to 0) to 1.
- 2: change value of (first bit equal to 1) to 0.
- 3: change all bits (from index 0 until first bit equal to 1) to 1. if  $n$  equal 0,then  $n$  will be  $-1$ .
- 4: change all bits (from index 0 until first bit equal to 0) to 0.
- 5: if  $n$  is power of two print "is power of two", otherwise print "not power of two".

#### Input

The first line of input contains two number  $n, q$  ( $0 < n \leq 10^9, 1 \leq q \leq 10^5$ ).

The next  $q$  lines one type of query.

#### Output

print  $q$  lines, each query in one line. if query from type 5 just answers the query, otherwise print the value of  $n$  after changes.

#### Example

input	Copy
5 7 1 2 3 5 4 1 5	
output	Copy
7 6 7 not power of two 0 1 is power of two	

ICPC Assiut University Training - Standard - Juniors Phase 1

Public

Participant



→ Group Contests

Standard #5 (Bits , bit-masking )

Standard #4 (Binary search , two pointers )

Standard #3 (set , sorting, compare function , map )

Standard #2 (binary search , stack , queue, deque , priority queue)

Standard #1 (Frequency , prefix sum , vector , pair ,struct)

Standard #5 (Bits , bit-masking .)

Finished

Practice



→ Virtual participation

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Start virtual contest

→ Submit?

Language: GNU G++20 11.2.0 (64 bit, w

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
<a href="#">228213489</a>	Oct/14/2023 22:03	Accepted
<a href="#">226778785</a>	Oct/05/2023 20:50	Accepted
<a href="#">226777512</a>	Oct/05/2023 20:39	Accepted
<a href="#">226775666</a>	Oct/05/2023 20:23	Wrong answer on test 4
<a href="#">226771467</a>	Oct/05/2023 19:48	Wrong answer on test 4
<a href="#">226770582</a>	Oct/05/2023 19:42	Wrong answer on test 4
<a href="#">226770347</a>	Oct/05/2023 19:40	Wrong answer on test 4