

B. binary search STL

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

you have an array of length n and q query, each query is one of these 3 types :

- $lower_bound\ x$: mean find first element greater than or equal x , if not found print -1.
- $upper_bound\ x$: mean find first element greater than x , if not found print -1.
- $binary_search\ x$: mean find x in the array or not.if x in array print "found" otherwise print "not found".

Input

The first line of input contains two integers n,q ($1 \leq N, q \leq 10^5$). The second line contains n numbers a_i ($1 \leq a_i \leq 10^9$). The next q lines contains the queries. ($1 \leq x \leq 10^9$).

Output

print the answer for each query in one line.

Example

input

Copy

5 6
1 5 4 3 2
binary_search 5
lower_bound 5
upper_bound 5
lower_bound 3
upper_bound 3
binary_search 6

output

Copy

found
5
-1
3
4
not found

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

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 |
|---------------------------|-------------------|----------|
| 226497759 | Oct/03/2023 23:29 | Accepted |
| 226484608 | Oct/03/2023 21:02 | Accepted |