

A. GukiZ and Contest

time limit per test: 2 seconds
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

Professor GukiZ likes programming contests. He especially likes to rate his students on the contests he prepares. Now, he has decided to prepare a new contest.

In total, n students will attend, and before the start, every one of them has some positive integer rating. Students are indexed from 1 to n . Let's denote the rating of i -th student as a_i . After the contest ends, every student will end up with some positive integer position. GukiZ expects that his students will take places according to their ratings.

He thinks that each student will take place equal to . In particular, if student A has rating strictly lower then student B , A will get the strictly better position than B , and if two students have equal ratings, they will share the same position.

GukiZ would like you to reconstruct the results by following his expectations. Help him and determine the position after the end of the contest for each of his students if everything goes as expected.

Input

The first line contains integer n ($1 \leq n \leq 2000$), number of GukiZ's students.

The second line contains n numbers a_1, a_2, \dots, a_n ($1 \leq a_i \leq 2000$) where a_i is the rating of i -th student ($1 \leq i \leq n$).

Output

In a single line, print the position after the end of the contest for each of n students in the same order as they appear in the input.

Examples

input
3 1 3 3
output
3 1 1
input
1 1
output
1
input
5 3 5 3 4 5
output
4 1 4 3 1

Note

In the first sample, students 2 and 3 are positioned first (there is no other student with higher rating), and student 1 is positioned third since there are two students with higher rating.

In the second sample, first student is the only one on the contest.

Codeforces Round #307 (Div. 2)

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.



Start virtual contest

→ Problem tags

implementation sortings

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 

In the third sample, students 2 and 5 share the first position with highest rating, student 4 is next with third position, and students 1 and 3 are the last sharing fourth position.

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The only programming contests Web 2.0 platform
Server time: Nov/30/2016 19:20:58^{UTC+8} (c4).
Desktop version, switch to [mobile version](#).