C. New Year Ratings Change

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

One very well-known internet resource site (let's call it X) has come up with a New Year adventure. Specifically, they decided to give ratings to all visitors.

There are n users on the site, for each user we know the rating value he wants to get as a New Year Present. We know that user i wants to get at least a_i rating units as a present.

The X site is administered by very creative and thrifty people. On the one hand, they want to give distinct ratings and on the other hand, the total sum of the ratings in the present must be as small as possible.

Help site X cope with the challenging task of rating distribution. Find the optimal distribution.

Input

The first line contains integer n ($1 \le n \le 3 \cdot 10^5$) — the number of users on the site. The next line contains integer sequence $a_1, a_2, ..., a_n$ ($1 \le a_i \le 10^9$).

Output

Print a sequence of integers $b_1, b_2, ..., b_n$. Number b_i means that user i gets b_i of rating as a present. The printed sequence must meet the problem conditions.

If there are multiple optimal solutions, print any of them.

Examples

input
3 5 1 1
output
5 1 2

input
1 1000000000
output
1000000000

Good Bye 2013
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

greedy sortings

No tag edit access

→ Contest materials

- Announcement
- Tutorial