Data Structures

Heights

There are *n* people arranged in a row from left to right to take a group photo.
You are given an array *a*, where a_i represents the height of the *i*-th person (1 <= *i* <= *n*).

Person *i*'s *satisfaction level* is the total number of people that is shorter than person *i* before hitting the end of row or a person with a taller or equal height, in both directions.

For example, consider an array {1, 5, 2, 3, 2, 1} :
Person 4's satisfaction level is 3. To the left side, person 3 is the only shorter person before hitting a greater height; on the right side, persons 5 and 6 are both shorter than person 4.

Given an integer *n* and the array *a*, find out the satisfaction levels of each person.

Input Format

The first line of input be 1 integer, *n*.
The next line of input will contain *n* space-separated integers, representing the array *a*.

Output Format

Output *n* integers, where the *i*-th integer represents the satisfaction level of the *i*-th person.

Constraints

- $1 < n < 5*10^6$
- $1 < a_i < 10^9$

Sample Input 1

6
1 5 2 3 2 1

Sample Output 1

0 5 0 3 1 0

Sample Input 2

10
1 6 2 3 5 2 1 4 6 2

Sample Output 2

0 7 0 1 5 1 0 2 7 0