

Some people are standing in a row in a park. There are trees between them which cannot be moved. Your task is to rearrange the people by their heights in a non-descending order without moving the trees. People can be very tall!

Example

For `a = [-1, 150, 190, 170, -1, -1, 160, 180]`, the output should be `sortByHeight(a) = [-1, 150, 160, 170, -1, -1, 180, 190]`.

Input/Output

- **[execution time limit] 0.5 seconds (cpp)**

- **[input] array.integer a**

If `a[i] = -1`, then the i^{th} position is occupied by a tree. Otherwise `a[i]` is the height of a person standing in the i^{th} position.

Guaranteed constraints:

$1 \leq a.length \leq 1000$,

$-1 \leq a[i] \leq 1000$.

- **[output] array.integer**

- Sorted array `a` with all the trees untouched.