

ginortS

You are given a string S .
 S contains alphanumeric characters only.

Sorting

Your task is to sort the string S in the following manner:

- All sorted *lowercase letters* are ahead of *uppercase letters*.
- All sorted *uppercase letters* are ahead of digits.
- All sorted *odd digits* are ahead of sorted *even digits*.

Input Format

A single line of input contains the string S .

Constraints

$$0 < len(S) < 1000$$

Output Format

Output the sorted string S .

Sample Input

Sorting1234

Sample Output

ginortS1324

Note:

a) Using `join`, `for` or `while` anywhere in your code, even as substrings, will result in a score of `0`.

b) You can only use *one* `sorted` function in your code. A `0` score will be awarded for using `sorted` more than once.

Hint: Success is not the key, but *key* is success.