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.