

#21 - Warming 2

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Alphabetic lovers found some random unordered alphabet. Please help them to arrange that alphabetic string to ordered alphabet. Lowercase placed in front of (left) uppercase if the letter same.

Input

The first line of input specifies the number N of ranges, and each of the N following lines contains unordered alphabetic string which is no more than 100 characters length for each string.

Output

For each alphabetic string, print the ordered string.

Sample Input

```
5
hrAvaO
AaBbCcDd
ABC
CAB
A
```

Sample Output

```
aAhOrv
aAbBcCdD
ABC
ABC
A
```

Problem Requirement

Runtime Limit : 5 seconds

Memory Limit : 8000 bytes