

# Building a List

Chan has decided to make a list of all possible combinations of letters of a given string S. If there are two strings with the same set of characters, print the lexicographically smallest arrangement of the two strings.

```
abc acb cab bac bca
```

all the above strings' lexicographically smallest string is abc.

Each character in the string S is unique. Your task is to print the entire list of Chan's in lexicographic order.

for string *abc*, the list in lexicographic order is given below

```
a ab abc ac b bc c
```

### Input Format

The first line contains the number of test cases T. T testcases follow.  
Each testcase has 2 lines. The first line is an integer N ( the length of the string).  
The second line contains the string S.

### Output Format

For each testcase, print the entire list of combinations of string S, with each combination of letters in a newline.

### Constraints

- 0 < T < 50
- 1 < N < 16
- string S contains only small alphabets(a-z)

### Sample Input

```
2
2
ab
3
xyz
```

### Sample Output

```
a
ab
b
x
xy
xyz
xz
y
```

yz  
z

### Explanation

In the first case we have ab, the possibilities are a, ab and b. Similarly, all combination of characters of xyz.