
Broken palindromes

P54747_en

Vuitè Concurs de Programació de la FME (2011-12-21)

(The original statement in Catalan has some jokes. This English version goes straight to the point of the problem.)

A palindrome has been broken into pieces. Put the pieces together in the right order.

Input

Input consists of several cases. Every case begins with the number of pieces n . Follow the n pieces, made up of only lowercase letters. Assume $1 \leq n \leq 8$.

Output

For every case, print the palindrome that can be made by joining all the pieces. There is always exactly one solution.

Sample input

```
8
da
ba
learro
zal
azo
rra
ela
bad
3
b
a
a
2
votemos
someto
1
pop
```

Sample output

```
dabalearrozalazorraelabad
aba
sometovotemos
pop
```

Problem information

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Generation : 2025-05-14 10:35:45

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