Twofive

Having a 5×5-table, we make a right-table by filling letters from 'A'..'Y' into the table satisfying:

- Each letter is used exactly one time.
- The letters is ascending on every row.
- The letters is ascending on every column.

Each right-table is described by a 25-length string, see the example below for detail:

The right-table:

```
 A  B  C  D  E
 F  G  H  I  J
 K  L  M  N  O
 P  Q  R  S  T
 U  V  W  X  Y
```

is described by the string "ABCDEFGHIJKLMNOPQRSTUVWXY".

All descriptions are sorted ascending (following the dictionary order) and numbered from 1.

Task

- Give an order, find the right description.
- Give a description, find the right order.

Input

- The first line contains a number (an order).
- The second line contains a description.

Output

- The first line contains the 25-length string desribing the order given.
- The second line contains the order of the given description.

Example

Input:
```
1
ABCDEFGHIJKLMNOPQRSTUVWXY
```

Output:
```
ABCDEFGHIJKLMNOPQRSTUVWXY
1
```