A. Fox And Names

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Fox Ciel is going to publish a paper on FOCS (Foxes Operated Computer Systems, pronounce: "Fox"). She heard a rumor: the authors list on the paper is always sorted in the lexicographical order.

After checking some examples, she found out that sometimes it wasn't true. On some papers authors' names weren't sorted in lexicographical order in normal sense. But it was always true that after some modification of the order of letters in alphabet, the order of authors becomes lexicographical!

She wants to know, if there exists an order of letters in Latin alphabet such that the names on the paper she is submitting are following in the lexicographical order. If so, you should find out any such order.

Lexicographical order is defined in following way. When we compare s and t, first we find the leftmost position with differing characters: $s_i \neq t_i$. If there is no such position (i. e. s is a prefix of t or vice versa) the shortest string is less. Otherwise, we compare characters s_i and t_i according to their order in alphabet.

Input

The first line contains an integer n ($1 \leq n \leq 100$): number of names.

Each of the following n lines contain one string $name_i$ ($1 \leq |name_i| \leq 100$), the i-th name. Each name contains only lowercase Latin letters. All names are different.

Output

If there exists such order of letters that the given names are sorted lexicographically, output any such order as a permutation of characters 'a'–'z' (i. e. first output the first letter of the modified alphabet, then the second, and so on).

Otherwise output a single word "Impossible" (without quotes).

Examples

input
3 rivest shamir adleman
output
bcdefghijklmnopqrsatuvwxyz

input
10 tourist petr wjmzbmr yeputons vepifanov scottwu oooooooooooooooo subscriber rowdark tankengineer
output
Impossible

input

```
10
petr
egor
endagorion
feferivan
ilovetanyaromanova
kostka
dmitriyh
maratsnowbear
bredorjaguarturnik
cgyforever
```

output

```
aghjlnopefikdmbcqrstuvwxyz
```

input

```
7
car
care
careful
carefully
becarefuldontforgetsomething
otherwiseyouwillbehacked
goodluck
```

output

```
acbdefhijklmnogpqrstuvwxyz
```