A. Stable Match

Description

The Valentine's Day is less than a month away! There are still n single boys and n single girls at school, so they want to match themselves to celebrate the Valentine's Day. **Note that, the match should be stable, and these girls are shy, so that only boys can propose to girls.**

Input format

The first line of the input contains one single integers n $(1 \leq n \leq 1000)$.

The second line contains n strings indicating the n boys' names.

The third line contains n girls' names.

Then following n lines. The ith line contains n strings describes the prefer list of the ith boy(who he prefers appears first).

Then following n lines describe the same information for n girls.

Output format

Output n lines. Each line contains two names for a couple, and the boy's name comes first.

All boys' names should follow the same order as the input.

If there is no stable matching exist, please output only one single word 'impossible'(without quote).

Sample input

```
3
Xavier Yancey Zeus
Amy Bertha Clare
Amy Bertha Clare
Clare Bertha Amy
Amy Clare Bertha
Zeus Xavier Yancey
Yancey Xavier Zeus
Xavier Zeus Yancey
```

Sample output

```
Xavier Bertha
Yancey Clare
Zeus Amy
```

Limitations & Hints

1<=n<=1000