Statement

Now that you have deciphered all the communications from the fake news network, you have notified the appropriate authorities. Unfortunately, these authorities are not competent enough to stop the fake news network in time for the 2022 elections. You must therefore handle the matter with your own hands to prevent the fake news from spreading.

For each of the N fake news articles released in the last few months, you have one debunk article released at the same time. An article is represented by a string S = S[1]...S[|S|] representing a sequence of topics. Each character of the string thus represents a subject, and the same subject can be treated several times in an article (with different arguments).

In order not to overload the readers' brain, each morning you will be able to choose an article F from fake news and the corresponding article D from debunk and tweet T = [(a[1], b[1]), (a[2], b[2]), ..., (a[k], b[k])] highlighting k pairs of arguments treated in the articles. For a tweet to be striking, there are a few rules to follow :

- two paired arguments (x, y) must correspond to the same subject (F[x] = D[y]);

- the arguments must be treated in the same order as in the articles (0<=a[1]<a[2]<...<a[k]<|F| and 0<=b[1]<...<b[k]<|D|).

Your strategy did not go unnoticed, and the fake news editors decided to do exactly the same as you did. So, for every tweet you make, they will also tweet in the afternoon, but not necessarily on the same article.

Since the important thing is to have the last word, the first one who can no longer deal with an argument not already dealt with (whether it was dealt with by you or by them) will have lost out in this journalistic joust.

Given the list of articles, determine whether you can be sure you have the last word.

Data

<u>Input</u>

Line 1: An integer **N** (with 1 <= **N** <= 100), the number of pairs of articles you have available.

Lines 2 to N+1: Two strings **F** and **D** (with 1 <= |**F**|, |**D**| <= 5) separated by a space and composed of lowercase letters only. The characters in **F** and **D** represent the subjects of these articles, and the same subject can be treated several times in an article.

<u>Output</u>

The word "DEBUNK" if you can be sure to get the last word by tweeting first, otherwise "FAKE".

Example

For the input:
```
2

cabc dbad

abab cdcd
```

In this example, there is no common argument in the second pair of articles, so we won't be able to tweet about it. In the first one on the other hand, there are only 2 1-character sub-sequences in common: "a" and "b" (no common sub-sequence of 2 or more characters exists). As you start tweeting, we can start with "a" and your opponent tweet "b" (or the other way around), and we will have lost. Thus, you will not be able to have the last word and must therefore output:
```
FAKE
```

For the input:
```
2

cabc dbad

abcab abadb
```

Here you can start by tweeting "abab" in the second pair of items. This leaves only "c" in the first article of this pair, and "d" in the second: neither you nor your opponent can tweet an argument from this pair of articles. Your opponent then has two arguments left ("a" and "b" from the first pair of posts), but can only tweet about one at a time. So, you will have the last word and can proudly output:
```
DEBUNK
```