

Boat Parts

Problem ID: boatparts
CPU Time limit: 1 second
Memory limit: 1024 MB
Difficulty: 1.6

Boating season is over for this year, and Theseus has parked his boat on land. Of course, the boat looks nothing like it did as of the beginning of the season; it never does. You see, Theseus is constantly looking for ways to improve his boat.

At every day of the boating season, Theseus bought exactly one type of item at his local supply store, and replaced the existing part on his boat with it. Now, as the season has ended, Theseus wonders what day he replaced all the parts from the previous season.



Photo by Can Mustafa Ozdemir

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Source: IDI Open 2018
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Input

The first line of the input consists of two space-separated integers P and N , representing the number of parts the boat consists of, and the number of days in the boating season respectively.

Then follows N lines, each line has a single word w_i , the type of boat part that Theseus bought on day i .

Output

Output the day Theseus ended up replacing the last existing part from the previous season, or `paradox avoided` if Theseus never ended up replacing all the different parts.

Limits

- $1 \leq P \leq N \leq 1\,000$.
- Each word w_i will consist only of the letters a–z and _ (underscore).
- Each word w_i will be between 1 and 20 characters long.
- The number of distinct w_i s will be at most P .

Sample Input 1

```
3 5
left_oar
right_oar
left_oar
hull
right_oar
```

Sample Output 1

```
4
```

Sample Input 2

```
4 5
motor
hull
left_oar
hull
motor
```

Sample Output 2

```
paradox avoided
```