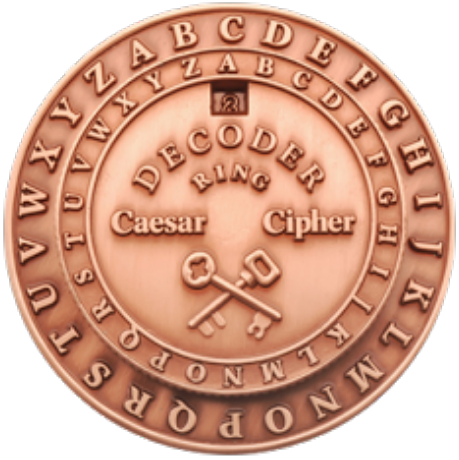
Caesar Cypher (caesar)

Julius Caesar has just written the new war declaration against Sparta. To prevent the enemies from reading this precious document the Emperor has ordered to encrypt it using his cypher.



> ☞ The Caesar Cypher consists of changing each letter of the message with next k-th letter of the alphabet (wrapping to a after z). k is called the *key* of the cypher and it can be used to decrypt the message simply by re-encrypting it with $-k$ as the key.
>
> For example if the message was `pizza` and the key $k = 3$ the encrypted message would be `slccd`.

Unfortunately the official who was supposed to encrypt the messages messed it up. He put the war declaration messages with other unrelated messages. Luckily for him he noticed that if he splits the messages into piles all with the same message (maybe encrypted with different keys), the taller is the one!

Help him to find the size of the largest pile all with the same message.

> ☞ Among the attachments of this task you may find a template file `caesar.*` with a sample incomplete implementation.

Input

The first line contains two integers N and D, where N is the number of messages, D is the length of each message. The next N lines contain a single word each.

Output

You need to write a single line with an integer: the size of the largest pile.

Constraints

- $1 \leq N \leq 10\,000$.
- $1 \leq D \leq 1000$.
- Each message is a single word with only lower case ASCII letters.

Scoring

Your program will be tested against several test cases, and your score will proportional to the number of correctly solved test cases. These test cases are such that:

- in 50% of them, $N \leq 1000$,

Examples

stdin/input.txt	stdout/output.txt
5 4 aaaa bbbb abab fgfg hhhh	3
5 5 pizza mafia cacca puzza pizzo	1

Explanation

In the **first example** there are 2 piles:

- `aaaa`, `bbbb` and `hhhh`
- `abab`, `fgfg`

The largest is the first so the answer is 3. Note that, assuming `aaaa` is the unencrypted message, `bbbb` can be decrypted with $k = 1$ and `hhhh` with $k = 7$.

In the **second example** each message is unique and cannot be transformed into any others. So there are 5 piles each with one message.