

C. Watto and Mechanism

time limit per test: 3 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Watto, the owner of a spare parts store, has recently got an order for the mechanism that can process strings in a certain way. Initially the memory of the mechanism is filled with n strings. Then the mechanism should be able to process queries of the following type: "Given string s , determine if the memory of the mechanism contains string t that consists of the same number of characters as s and differs from s in exactly one position".

Watto has already compiled the mechanism, all that's left is to write a program for it and check it on the data consisting of n initial lines and m queries. He decided to entrust this job to you.

Input

The first line contains two non-negative numbers n and m ($0 \leq n \leq 3 \cdot 10^5$, $0 \leq m \leq 3 \cdot 10^5$) — the number of the initial strings and the number of queries, respectively.

Next follow n non-empty strings that are uploaded to the memory of the mechanism.

Next follow m non-empty strings that are the queries to the mechanism.

The total length of lines in the input doesn't exceed $6 \cdot 10^5$. Each line consists **only** of letters 'a', 'b', 'c'.

Output

For each query print on a single line "YES" (without the quotes), if the memory of the mechanism contains the required string, otherwise print "NO" (without the quotes).

Examples

input
2 3 aaaaa acacaca aabaa ccacacc caaac
output
YES NO NO

Codeforces Round #291 (Div. 2)

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Language: GNU G++11 5.1.0 ▼

Choose file: [Choose File](#) No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

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→ Last submissions

Submission	Time	Verdict
15079490	Dec/29/2015 07:17	Time limit exceeded on test 20
15079219	Dec/29/2015 06:37	Wrong answer on test 6
15079211	Dec/29/2015 06:36	Wrong answer on test 6
15079208	Dec/29/2015 06:36	Wrong answer on test 1
15079181	Dec/29/2015 06:32	Wrong answer on test 6
15079027	Dec/29/2015 06:02	Wrong answer on test 6
15079024	Dec/29/2015 06:01	Wrong answer on test 1
15078890	Dec/29/2015 05:27	Wrong answer on test 2

→ Problem tags[binary search](#) [hashing](#)[string suffix structures](#) [strings](#)

No tag edit access

→ Contest materials

- Announcement



- Tutorial



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