HARBOUR.SPACE
UNIVERSITY

HOME   TOP   **CONTESTS**   GYM   PROBLEMSET   GROUPS   RATING   API   HELP   DASHA 🏆   CALENDAR   🔍

PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   HACKS   STANDINGS   CUSTOM INVOCATION

E. Game With String

time limit per test: 3 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Alice and Bob play a game. Initially they have a string $s_1, s_2, \ldots, s_n$, consisting of only characters `.` and `X`. They take alternating turns, and Alice is moving first. During each turn, the player has to select a contiguous substring consisting only of characters `.` and replaces each of them with `X`. Alice must select a substing of length a, and Bob must select a substring of length b. It is guaranteed that $a > b$.

For example, if $s =$ `...X..` and $a = 3, b = 2$, then after Alice's move string can turn only into `XXXX..` And if it's Bob's turn and the string $s =$ `...X..`, then after Bob's move the string can turn into `XX.X..`, `.XXX..` or `...XXX`.

Whoever is unable to make a move, loses. You have to determine who wins if they both play optimally.

You have to answer q independent queries.

Input

The first line contains one integer q ($1 \le q \le 3 \cdot 10^5$) — the number of queries.

The first line of each query contains two integers a and b ($1 \le b < a \le 3 \cdot 10^5$).

The second line of each query contains the string s ($1 \le |s| \le 3 \cdot 10^5$), consisting of only characters `.` and `X`.

It is guaranteed that sum of all $|s|$ over all queries not exceed $3 \cdot 10^5$.

Output

For each test case print `YES` if Alice can win and `NO` otherwise.

You may print every letter in any case you want (so, for example, the strings `yEs`, `yes`, `Yes` and `YES` will all be recognized as positive answer).

Example

```
input                                                    Copy
3
3 2
XX......XX...X
4 2
X...X.X..X
5 3
.......X..X
```

```
output                                                   Copy
YES
NO
YES
```

Note

In the first query Alice can select substring $s_3 \ldots s_5$. After that s turns into `XXXXX...XX...X`. After that, no matter what move Bob makes, Alice can make the move (this will be her second move), but Bob can't make his second move.

In the second query Alice can not win because she cannot even make one move.

In the third query Alice can choose substring $s_2 \ldots s_6$. After that s turns into `.XXXXX.X..X`, and Bob can't make a move after that.

Educational Codeforces Round 73 (Rated for Div. 2)

Finished

Practice

⭐

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest]

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest]

→ Submit?

Language: GNU G++11 5.1.0   ▼

Choose file: 选择文件 未选择任何文件

[Submit]

→ Problem tags

games   No tag edit access