



D. Test of Love

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

ErnKor is ready to do anything for Julen, even to swim through crocodile-infested swamps. We decided to test this love. ErnKor will have to swim across a river with a width of 1 meter and a length of n meters.

The river is very cold. Therefore, **in total** (that is, throughout the entire swim from 0 to $n + 1$) ErnKor can swim in the water for no more than k meters. For the sake of humanity, we have added not only crocodiles to the river, but also logs on which he can jump. Our test is as follows:

Initially, ErnKor is on the left bank and needs to reach the right bank. They are located at the 0 and $n + 1$ meters respectively. The river can be represented as n segments, each with a length of 1 meter. Each segment contains either a log 'L', a crocodile 'C', or just water 'W'. ErnKor can move as follows:

- If he is on the surface (i.e., on the bank or on a log), he can jump forward for no more than m ($1 \leq m \leq 10$) meters (he can jump on the bank, on a log, or in the water).
- If he is in the water, he can only swim to the next river segment (or to the bank if he is at the n -th meter).
- ErnKor cannot land in a segment with a crocodile in any way.

Determine if ErnKor can reach the right bank.

Input

The first line contains a single integer t ($1 \leq t \leq 10^4$) — the number of test cases.

The first line of each test case contains three numbers n, m, k ($0 \leq k \leq 2 \cdot 10^5$, $1 \leq n \leq 2 \cdot 10^5$, $1 \leq m \leq 10$) — the length of the river, the distance ErnKor can jump, and the number of meters ErnKor can swim without freezing.

The second line of each test case contains a string a of length n . a_i denotes the object located at the i -th meter. ($a_i \in \{'W', 'C', 'L'\}$)

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output "YES" if ErnKor can pass the test, and output "NO" otherwise.

You can output the answer in any case (upper or lower). For example, the strings "yEs", "yes", "Yes", and "YES" will be recognized as positive responses.

Example

input
<pre>6 6 2 0 LWLLLW 6 1 1 LWLLLL 6 1 1 LWLLWL 6 2 15 LWLLCC 6 10 0 CCCCCC 6 6 1 WCCCCW</pre>
output
<pre>YES YES NO</pre>



NO
YES
YES

Copy

Note

Let's consider examples:

- First example: We jump from the shore to the first log ($0 \rightarrow 1$), from the first log to the second ($1 \rightarrow 3$), from the second to the fourth ($3 \rightarrow 5$), and from the last log to the shore ($5 \rightarrow 7$). So, we have $0 \rightarrow 1 \rightarrow 3 \rightarrow 5 \rightarrow 7$. Since we did not encounter a crocodile and swam no more than k meters, the answer is «YES».
- Second example: $0 \rightarrow 1$, we jump into the water from the first log ($1 \rightarrow 2$), swim a cell to the log ($2 \rightsquigarrow 3$), $3 \rightarrow 4 \rightarrow 5 \rightarrow 6 \rightarrow 7$. Since we did not encounter a crocodile and swam no more than k meters, the answer is «YES».
- In the third example, ErnKor needs to swim two cells 'W', but can only swim one. Therefore, the answer is «NO».
- Sixth example: We jump from the shore into the water ($0 \rightarrow 6$) and swim one cell in the water ($6 \rightsquigarrow 7$). Since we did not encounter a crocodile and swam no more than k meters, the answer is «YES».

Codeforces Round 957 (Div. 3)

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

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: Python 3.8.10
Almost always, if you send a solution on PyPy, it works much faster

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
270029499	Jul/11/2024 19:28	Accepted
270019670	Jul/11/2024 19:15	Wrong answer on test 2
270012258	Jul/11/2024 19:05	Wrong answer on test 2
269990778	Jul/11/2024 18:40	Wrong answer on test 2

→ Problem tags

dp greedy implementation *1200

No tag edit access

→ Contest materials

- Announcement
- Tutorial #1
- neal's video tutorial (en)
- Shayan's Video Tutorial (en)

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