

A. Ostap and Grasshopper

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

On the way to Rio de Janeiro Ostap kills time playing with a grasshopper he took with him in a special box. Ostap builds a line of length n such that some cells of this line are empty and some contain obstacles. Then, he places his grasshopper to one of the empty cells and a small insect in another empty cell. The grasshopper wants to eat the insect.

Ostap knows that grasshopper is able to jump to any empty cell that is **exactly** k cells away from the current (to the left or to the right). Note that it doesn't matter whether intermediate cells are empty or not as the grasshopper makes a jump over them. For example, if $k = 1$ the grasshopper can jump to a neighboring cell only, and if $k = 2$ the grasshopper can jump over a single cell.

Your goal is to determine whether there is a sequence of jumps such that grasshopper will get from his initial position to the cell with an insect.

Input

The first line of the input contains two integers n and k ($2 \leq n \leq 100$, $1 \leq k \leq n - 1$) — the number of cells in the line and the length of one grasshopper's jump.

The second line contains a string of length n consisting of characters '.', '#', 'G' and 'T'. Character '.' means that the corresponding cell is empty, character '#' means that the corresponding cell contains an obstacle and grasshopper can't jump there. Character 'G' means that the grasshopper starts at this position and, finally, 'T' means that the target insect is located at this cell. It's guaranteed that characters 'G' and 'T' appear in this line **exactly once**.

Output

If there exists a sequence of jumps (each jump of length k), such that the grasshopper can get from his initial position to the cell with the insect, print "YES" (without quotes) in the only line of the input. Otherwise, print "NO" (without quotes).

Examples

input
5 2 #G#T#
output
YES

input
6 1 T....G
output
YES

input
7 3 T..#..G
output
NO

input

6 2 ..GT..
output
NO

Note

In the first sample, the grasshopper can make one jump to the right in order to get from cell 2 to cell 4.

In the second sample, the grasshopper is only able to jump to neighboring cells but the way to the insect is free — he can get there by jumping left 5 times.

In the third sample, the grasshopper can't make a single jump.

In the fourth sample, the grasshopper can only jump to the cells with odd indices, thus he won't be able to reach the insect.