# P. DNA

**Time Limit: 1 seconds**

**Problem description**

In a certain Arab kingdom there was a king who was very kind and wise. One day a pretty girl came to the palace and claimed to be the king's daughter. The courtiers wanted to kill her to avoid damaging the king's reputation. But since he was a good king, he wanted to know if she really was his daughter and then made his decision.

A doctor was invited into the palace to conduct a DNA test of the king and that girl. DNA is a sequence of nucleotides A, T, C, G. Two people are considered to be related if the DNA sequence of the first person appears at least N times in the DNA sequence of the second person.

Write a program that checks how many times the girl's DNA sequence appears in the king's DNA sequence. The results will help to conclude whether the girl is the king's daughter or not.

*For example,*

Given the value of N is 3. After analyzing a hair sample, the girl's DNA is ATAT and the king's DNA is GCATATCACGTATATATGCATATATCC. The analysis result is 5 times, so the girl is exactly the king's biological daughter.

**Input:**

- The first line contains the number N ($1 \le N \le 100$).
- The second line, contains DNA of the the king. The maximum length of DNA of the king is 1000 characters.
- The third line, contains DNA of the the girl. The maximum length of DNA of the girl is 1000 characters.

**Output:**

Contains 1 line:

- "Y" if the girl is the king's biological daughter.
- "N" if the girl is not the king's biological daughter.

Example 1:

| Input | Output |
|---|---|
| 7<br>GCATATCACGTATATATGCATATATCC<br>ATAT | N |

Example 2:

| Input | Output |
|---|---|
| 2<br>ACGTGCACGTGCACGTGCA<br>GCACG | Y |