

A Block Game

Time limit: 1.0s **Memory limit:** 256M

Leve loves to play his favourite video game, *Block Game*. However, Leve has given up at trying to improve his skills, so he now depends on pure luck to win games. The one thing he is good at is keeping tally of his kill to death ratio. Being the knowledgeable player he is, Leve has figured out that he currently has K kills and D deaths. His kill to death ratio is measured by $\frac{K}{D}$.

Leve wishes that this is the only thing that he has to worry about, but he is far from correct. When he ~~gets absolutely carried~~ plays with his friends, too often do they brag that they're better. Leve simply wants to prove that he is, in fact, better than JW, so calculate if his kill to death ratio is greater than or equal to JW's.

Today, Leve has decided to play N games. In each game, Leve carefully keeps track of the kills he rightfully obtained, k_i , and the number of deaths he took, d_i . Because JW excels at math, he has managed to calculate his kill to death ratio on his own.

Leve admits that he is not the best at math, so he has asked you for help! Can you help Leve determine if he is better than JW?

Constraints

$$1 \leq N \leq 100\,000$$

$$0 \leq K \leq 5\,000$$

$$0 \leq D \leq 500$$

$$1 \leq J \leq 4\,000$$

$$0 \leq k_i \leq 500$$

$$0 \leq d_i \leq 1$$

Input Specification

The first line has 3 space-separated integers, the number of games played, N , Leve's original number of kills, K , and Leve's original number of deaths, D .

The next line has one decimal number with 2 decimal digits, J , JW's kill to death ratio.

The next N lines contain Leve's number of kills and deaths for the next N games: each line contains the number of kills he got, k_i , and the number of deaths he took, d_i .

Output Specification

If Leve somehow manages to maintain 0 deaths even after all N games, output `stop hacking!`.

Otherwise, output Y if Leve's final kill to death ratio is greater than or equal to JW's, and N if it is lower.

Sample Input 1

```
1 10 0
5.70
9 0
```

Sample Output 1

```
stop hacking!
```

Sample Input 2

```
6 50 3
46.07
7 0
9 0
8 0
8 0
7 1
6 0
```

Sample Output 2

```
N
```