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(function() { var po = document.createElement('script'); po.type = 'text/javascript'; po.async = true;
po.src = 'https://apis.google.com/js/plusone.js'; var s =
document.getElementsByTagName('script')[0]; s.parentNode.insertBefore(po, s); })();
```

## SPOJ Problem Set (classical)

### 7757. Flowers Flourish from France

**Problem code: MFLAR10**

English	Vietnamese
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Albert, Charles and Mary invented a new version of the classical game Bingo. In traditional Bingo the game is presided over by a non-player known as the caller. At the beginning of the game each player is given a card containing a unique combination of numbers from 0 to N arranged in columns and rows. The caller has a bag containing  $N + 1$  balls, numbered from 0 to N. On each turn, the caller randomly selects a ball from the bag, announces the number of the drawn ball to the players, and sets the ball aside so that it cannot be selected again. Each player searches his card for the called number and marks it if he finds it. The first player who marks a complete pre-announced pattern on the card (for example, a full horizontal line) wins a prize.

In the Albert-Charles-Mary version, on each turn, the caller draws a first ball, returns it to the bag, draws a second ball, returns it to the bag, and then calls out the absolute difference between the two ball numbers. To generate even more excitement, before the game started a possibly empty subset of balls is removed from the bag, in such a way that at least two balls remain there. They would like to know if every number from 0 to N may still be called out with the new drawing method considering the balls that were left in the bag.

**Input**

Each test case is given using exactly two lines. The first line contains two integers N and B. The meaning of N was described above ( $1 \leq N \leq 90$ ), while B represents the number of balls which remained in the bag ( $2 \leq B \leq N + 1$ ). The second line contains B distinct integers  $b_i$ , indicating the balls which remained in the bag ( $0 \leq b_i \leq N$ ).

The last test case is followed by a line containing two zeros.

**Output**

For each test case output a single line containing a single uppercase 'Y' if it is possible to call out

every number from 0 to N, inclusive, or a single uppercase 'N' otherwise.

Fiona has always loved poetry, and recently she discovered a fascinating poetical form. Tautograms are a special case of alliteration, which is the occurrence of the same letter at the beginning of adjacent words. In particular, a sentence is a tautogram if all of its words start with the same letter.

For instance, the following sentences are tautograms:

\* Flowers Flourish from France

\* Sam Simmonds speaks softly

\* Peter pIckEd pePPers

\* truly tautograms triumph

Fiona wants to dazzle her boyfriend with a romantic letter full of this kind of sentences. Please help Fiona to check if each sentence she wrote down is a tautogram or not.

## Input

Each test case is given in a single line that contains a sentence. A sentence consists of a sequence of at most 50 words separated by single spaces. A word is a sequence of at most 20 contiguous uppercase and lowercase letters from the English alphabet. A word contains at least one letter and a sentence contains at least one word.

The last test case is followed by a line containing only a single character '\*' (asterisk).

## Output

For each test case output a single line containing an uppercase 'Y' if the sentence is a tautogram, or an uppercase 'N' otherwise.

## Sample input

Flowers Flourish from France  
Sam Simmonds speaks softly

Peter pIckEd pePPers

truly tautograms triumph

this is NOT a tautogram

\*

## Output for the sample input

Y

Y

Y

Y

N

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Added by: ~!(\*(@\*!@^&

Date: 2010-11-05

Time limit: 1s-5s

Source limit:50000B

Cluster: Pyramid (Intel Pentium III 733 MHz)

Languages: All

Resource: ACM ICPC2010 - Latin American Regional