

## Problem Description

Rotate a given String in the specified direction by specified magnitude.

After each rotation make a note of the first character of the rotated String, After all rotation are performed the accumulated first character as noted previously will form another string, say **FIRSTCHARSTRING**.

Check If **FIRSTCHARSTRING** is an Anagram of any substring of the Original string.

If yes print "YES" otherwise "NO". Input

The first line contains the original string s. The second line contains a single integer q. The ith of the next q lines contains character d[i] denoting direction and integer r[i] denoting the magnitude.

## Constraints

1 <= Length of original string <= 30

1 <= q <= 10

## Output

YES or NO

## Explanation

Example 1

Input

```
carrace
```

```
3
```

```
L 2
```

R 2

L 3

Output

NO

Explanation

After applying all the rotations the **FIRSTCHARSTRING** string will be "rcr" which is not anagram of any sub string of original string "carrace".

