

Weighted Uniform Strings

A weighted string is a string of lowercase English letters where each letter has a *weight* in the inclusive range from **1** to **26**, defined below:

a	1
b	2
c	3
d	4
e	5
f	6
g	7
h	8
i	9
j	10

k	11
l	12
m	13
n	14
o	15
p	16
q	17
r	18

s	19
t	20
u	21
v	22
w	23
x	24
y	25
z	26

We define the following terms:

- The *weight of a string* is the sum of the weights of all the string's characters. For example:

apple	$1 + 16 + 16 + 12 + 5 = 50$
hack	$8 + 1 + 3 + 11 = 23$
watch	$23 + 1 + 20 + 3 + 8 = 53$
cccc	$3 + 3 + 3 + 3 = 12$
aaa	$1 + 1 + 1 = 3$
zzzz	$26 + 26 + 26 + 26 = 104$

- A *uniform string* is a string consisting of a single character repeated zero or more times. For example, **ccc** and **a** are uniform strings, but **bcb** and **cd** are not (i.e., they consist of more than one distinct character).

Given a string, s , let U be the set of weights for all possible uniform **substrings** (contiguous) of string s . You have to answer n queries, where each query i consists of a single integer, x_i . For each query, print **Yes** on a new line if $x_i \in U$; otherwise, print **No** instead.

Note: The \in symbol denotes that x_i is an **element of** set U .

Input Format

The first line contains a string denoting s (the original string).

The second line contains an integer denoting n (the number of queries).

Each line i of the n subsequent lines contains an integer denoting x_i (the weight of a uniform substring of s that may or may not exist).

Constraints

- $1 \leq |s|, n \leq 10^5$
- $1 \leq x_i \leq 10^7$
- s will only contain lowercase English letters.

Output Format

Print n lines. For each query, print **Yes** on a new line if $x_i \in U$; otherwise, print **No** instead.

Sample Input 0

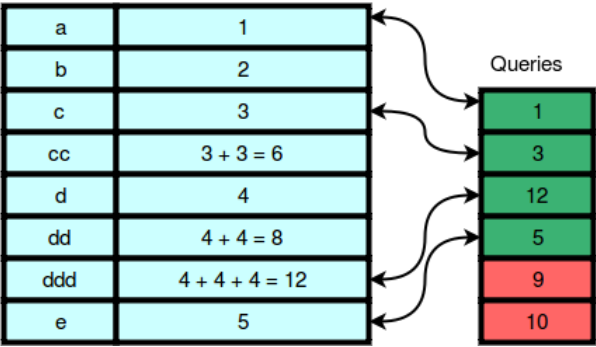
```
abccddde
6
1
3
12
5
9
10
```

Sample Output 0

```
Yes
Yes
Yes
Yes
No
No
No
```

Explanation 0

The weights of every possible *uniform substring* in the string `abccddde` are shown below:



We print `Yes` on the first four lines because the first four queries match weights of uniform substrings of `s`. We print `No` for the last two queries because there are no uniform substrings in `s` that have those weights.

Note that while `de` is a substring of `s` that would have a weight of `9`, it is *not a uniform substring*.

Note that we are only dealing with contiguous substrings. So `ccc` is not a substring of the string `ccxxc`.