PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   HACKS   ROOM   STANDINGS   CUSTOM INVOCATION

D. Irreducible Anagrams

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Let's call two strings s and t *anagrams* of each other if it is possible to rearrange symbols in the string s to get a string, equal to t.

Let's consider two strings s and t **which are anagrams of each other**. We say that t is a *reducible anagram* of s if there exists an integer $k \geq 2$ and $2k$ non-empty strings $s_1, t_1, s_2, t_2, \ldots, s_k, t_k$ that satisfy the following conditions:

1. If we write the strings $s_1, s_2, \ldots, s_k$ in order, the resulting string will be equal to s;
2. If we write the strings $t_1, t_2, \ldots, t_k$ in order, the resulting string will be equal to t;
3. For all integers i between 1 and k inclusive, s_i and t_i are anagrams of each other.

If such strings don't exist, then t is said to be an *irreducible anagram* of s. **Note that these notions are only defined when s and t are anagrams of each other**.

For example, consider the string $s = $ "gamegame". Then the string $t = $ "megamage" is a reducible anagram of s, we may choose for example $s_1 = $ "game", $s_2 = $ "gam", $s_3 = $ "e" and $t_1 = $ "mega", $t_2 = $ "mag", $t_3 = $ "e":

$$s = \overbrace{\text{game}}^{s_1} \mid \overbrace{\text{gam}}^{s_2} \mid \overbrace{\text{e}}^{s_3}$$

$$t = \underbrace{\text{mega}}_{t_1} \mid \underbrace{\text{mag}}_{t_2} \mid \underbrace{\text{e}}_{t_3}$$

On the other hand, we can prove that $t =$ "`memegaga`" is an irreducible anagram of s.

You will be given a string s and q queries, represented by two integers $1 \le l \le r \le |s|$ (where $|s|$ is equal to the length of the string s). For each query, you should find if the substring of s formed by characters from the l-th to the r-th has <u>at least one</u> irreducible anagram.

- Announcement (en)
- Tutorial (en)

Input
The first line contains a string s, consisting of lowercase English characters ($1 \le |s| \le 2 \cdot 10^5$).

The second line contains a single integer q ($1 \le q \le 10^5$) — the number of queries.

Each of the following q lines contain two integers l and r ($1 \le l \le r \le |s|$), representing a query for the substring of s formed by characters from the l-th to the r-th.

Output
For each query, print a single line containing "`Yes`" (without quotes) if the corresponding substring has at least one irreducible anagram, and a single line containing "`No`" (without quotes) otherwise.

Examples

input
```
aaaaa
3
1 1
2 4
5 5
```

output
```
Yes
No
Yes
```

input

```
aabbbbbbc
6
1 2
2 4
2 2
1 9
5 7
3 5
```

output   Copy

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

Note

In the first sample, in the first and third queries, the substring is "a", which has itself as an irreducible anagram since two or more non-empty strings cannot be put together to obtain "a". On the other hand, in the second query, the substring is "aaa", which has no irreducible anagrams: its only anagram is itself, and we may choose $s_1 = $ "a", $s_2 = $ "aa", $t_1 = $ "a", $t_2 = $ "aa" to show that it is a reducible anagram.

In the second query of the second sample, the substring is "abb", which has, for example, "bba" as an irreducible anagram.