Problem L
Lazy Learner

Lang is very lazy at learning English. He is always getting distracted during English classes. Being happy with the sweet message he got from his girlfriend yesterday, Lang invented a game to play during his English class.

Lang has an English dictionary containing n words, denoted as $T_1, T_2, \ldots, T_n$. Denoting as S the message he received, his game is as below:

- First, he chooses two indices ℓ and r $(1 \leq \ell \leq r \leq |S|)$.
- Then, he considers the **substring** of S from ℓ to r, he finds all words in his dictionary which are **subsequences** of this **substring**.
- Next, he sorts all these words in lexicographic order.
- Finally, he chooses a positive integer k and wonders which is the k-th word of this list.

Lang wants to play this game q times. However, he worries that the class would end before he finishes playing, so he asks you to write a program to find the k-th word quickly.

Note

- Given a string $S = s_1 s_2 \ldots s_n$:
  - The **substring** of S from ℓ to r $(1 \leq \ell \leq r \leq n)$ is the string $s_\ell s_{\ell+1} \ldots s_r$.
  - A string $T = t_1 t_2 \ldots t_m$ is a **subsequence** of S iff there exists a sequence of indices $1 \leq i_1 < i_2 < \cdots < i_m \leq n$ such that $S_{i_j} = T_j \; \forall 1 \leq j \leq m$.
- A string $S = s_1 s_2 \ldots s_n$ is lexicographically smaller than a string $T = t_1 t_2 \ldots t_m$ iff any of the following is satisfied:
  - $n < m$ and $S_i = T_i \; \forall 1 \leq i \leq n$.
  - There exists an index j such that $1 \leq j \leq \min(m, n), S_i = T_i \; \forall 1 \leq i < j$ and $S_j < T_j$.

Input

- The first line contains a string S of at most 500 lowercase English characters — the message Lang received yesterday.
- The second line contains two integers n $(1 \leq n \leq 2 \cdot 10^4)$ — the number of words in Lang's dictionary, and q $(1 \leq q \leq 3 \cdot 10^5)$ — the number of times Lang plays his game.
- Each of the next n lines contain a non-empty string of lowercase English characters — a word in Lang's dictionary. The total length of these n words does not exceed $8 \cdot 10^4$.
- Each of the last q lines contain three positive integers ℓ, r, and k $(1 \leq \ell \leq r \leq |S|, 1 \leq k \leq n)$ presenting a game as described above.

Output

Print q lines describing the words Lang is looking for in these q games. **If the length of the word is longer than 10 characters, print only the first 10 characters.** If in some game, that word does not exist (i.e, k is greater than the number of words in the list), print 'NO SUCH WORD' instead.

Please note that the checker of this problem is case-sensitive.

Sample Input 1	Sample Output 1
abcd 3 5 a ac bd 1 3 1 1 3 2 1 3 3 2 4 1 2 4 2	a ac NO SUCH WORD bd NO SUCH WORD