



# Problem B

## Another Substring Query Problem

Time Limit: 6 Seconds

You are given a string  $s$  and several queries.

Each query consists of a string  $t$  and an integer  $k$ . For each query, determine the  $k^{th}$  position in  $s$  where a substring matching  $t$  starts. If  $t$  occurs fewer than  $k$  times in  $s$ , print  $-1$ .

### Input

The first line of input contains a single string  $s$  ( $1 \leq |s| \leq 2 \cdot 10^5$ ), which is the queriable string. It will consist only of lower-case letters.

The next line of input contains a single integer  $q$  ( $1 \leq q \leq 2 \cdot 10^5$ ), which is the number of queries that follow.

Each of the next  $q$  lines contains a string  $t$  ( $1 \leq |t|$ ) and an integer  $k$  ( $1 \leq k \leq |s|$ ). This represents a query for the  $k^{th}$  occurrence of  $t$  in  $s$ . The string  $t$  will consist only of lower-case letters. The sum of all  $|t|$ 's will be  $\leq 2 \cdot 10^5$ .

### Output

Output a single integer, which is the position of the start of the  $k^{th}$  occurrence of  $t$  in  $s$ , or  $-1$  if  $t$  occurs fewer than  $k$  times in  $s$ . The first character in  $s$  is at position 1.

Sample Input 1	Sample Output 1
abacabadabacaba	13
4	-1
a 7	10
e 3	5
bac 2	
abada 1	