

Problem L

Last Word



The `substring()` function is a commonly-used operation available in most programming languages that operates on strings. A start offset and a length are provided and used to construct a new string containing only the characters in a sequence of that length beginning from the offset.

One particular string has had this called a large number of times in sequence: we repeatedly used the standard library function `substring(s, start, length)` to chop it up until now a potentially much shorter string remains.

Find the value of the string produced by all of these operations.

Input

The first line of input contains the string s ($1 \leq |s| \leq 10^6$).

The second line of input contains the number of operations, n ($1 \leq n \leq 10^6$).

Each of the following n lines contains the two integers $start_i$ and $length_i$ ($0 \leq start_i < length_i \leq |s|$; $1 \leq start_i + length_i \leq |s|$).

Output

Output the string after all of the successive `substring()` operations.

Sample Input 1

helloworld
2
1 9
0 5

Sample Output 1

ellow

Sample Input 2

abcdefghijklmnopqrstuvwxy
8
1 24
1 22
1 20
1 18
1 16
1 14
1 12
1 10

Sample Output 2

ijklmnopqr