Stacy numbers

Stacy loves playing with numbers. She made a sequence of digits and wrote down all its *valid sub-segments* as a new array A.

A *sub-segment* is defined here as a consecutive part of an N-digit sequence. Sub-segments with leading zeros are not valid. For example valid sub-segments of the sequence 1205 are $\{1,12,120,1205,2,20,205,0, 5\}$. Note that 0 is a valid sub-segment, but 05 is not.

Stacy sorts her new array A in *ascending* order, about which she has Q questions. I^{th} question is,"Which number is A_{B_I}?" (In other words, which number is in B_I^{th} position in array A?)

Help Stacy answer her questions and print each $answer_I$ modulo (10^9+7) on a new line.

Note: Position of array A starts from 1.

Input Format

The first line contains N (size of the sequence) and Q (number of questions).
The second line contains N digits (Stacy's initial sequence).
The Q subsequent lines each contain a question: an integer corresponding to some index B_I.

Constraints
$1\le N \le 10^5$
$1\le Q \le 10^5$
It's guaranteed that the ${B_i}^{th}$ number exists.
$1 \le B_i < B_{i+1}$ for $1\le i <Q $

Output Format

For each question, find the number in index B_I and print the $answer_I$ modulo (10^9+7) on a new line.

Sample Input

```
5 5
12012
1
4
6
8
12
```

Sample Output

```
0
2
12
20
2012
```

Explanation

Stacy's sorted numbers are: $[0, 1, 1, 2, 2, 12, 12, 20, 120, 201, 1201, 2012, 12012]$.
1^{st} number is 0,
4^{th} number is 2,

6^{th} number is 12,
8^{th} number is 20,
12^{th} number is 2012.