

Divisibility

Two positive integers P and S are given.

$S = \overline{d_1 d_2 \dots d_N}$ is decimal representation of integer S .

Lets define $f(l, r) = \overline{d_l d_{l+1} \dots d_r}$.

For example, if $S = 9876$:

$$d_1 = 9, d_2 = 8, d_3 = 7, d_4 = 6$$

$$f(2, 3) = \overline{d_2 d_3} = 87$$

$$f(1, 3) = \overline{d_1 d_2 d_3} = 987$$

$$f(4, 4) = \overline{d_4} = 6$$

For each query you will be given two integers b and e that define a substring equal to $f(b, e)$.

Your task is to calculate *divisibility* of given substring.

Divisibility of given substring is equal to number of (i, j) pairs such that:

$$b \leq i \leq j \leq e \text{ and}$$

$f(i, j)$ is divisible by P , assuming that 0 is divisible by any other integer.

Timelimits

Timelimits for this challenge is given [here](#)

Input Format

First line contains two integers P and Q separated by a single space. Q is the number of queries.

Second line contains a big integer S .

Next Q lines contains two integers b and e separated by a single space each - begin and end points of substring.

Constraints

$$2 \leq P \leq 10^9$$

$$1000 \leq S < 10^{100\,000}$$

$$1 \leq Q \leq 100\,000$$

$$1 \leq b \leq e \leq N$$

Output Format

Output Q lines, the i -th line of the output should contain single integer *divisibility* of the i -th query substring.

Sample Input

```
3 5
4831318
3 5
```

```
5 7
1 7
1 2
2 3
```

Sample Output

```
2
3
9
1
1
```

Explanation

In the first query, $b = 3$ and $e = 5$. Two such pairs that are divisible by $P = 3$ are $f(3, 3) = 3$ and $f(5, 5)$. Hence the answer 2.

In the second query, $b = 5$ and $e = 7$. Three such pairs that are divisible by P are $F(5, 5) = 3$, $f(6, 7) = 18$ and $f(5, 7) = 318$