Sofi's Array

Sofi received an array of integers, A, as a birthday present, and decides to cut it into segments. She wants to know how many different cuttings have segments with products divisible by her favorite number, K. Help her find the answer, and print it modulo 10^9+9.

Constraints
$1 \le N \le 10^5$
$2 \le K \le 10^{18}$
$1 \le A_i \le 10^{18}$

Input Format

The first line contains two space-separated integers, N (the size of Sofi's array) and K (Sofi's favorite number).
The second line contains N space-separated integers describing Sofi's array (A).

Output Format

Print the number of different cuttings with segment products that are divisible by K modulo 10^9+9.

Sample Input

```
5 3
2 3 1 6 3
```

Sample Output

```
6
```

Explanation

Here are the 6 ways to cut this array so its segments have products divisible by 3 (K):

```
1) [2,3,1,6,3]          Product: 108.
2) [2,3,1,6] [3]        Products: 36,3.
3) [2,3] [1,6,3]        Products: 6,18.
4) [2,3] [1,6] [3]      Products: 6,6,3.
5) [2,3,1] [6,3]        Products: 6,18.
6) [2,3,1] [6] [3]      Products: 6,6,3.
```

Note: Your printed answer must be modulo 10^9+9.