

Problem: Week 4 - Hash Over Strings

Description

Given a string $s[1...k]$ which is a sequence of characters taken from $\{'a', \dots, 'z'\}$. Given a positive integer m , the hash code of s is defined by the formula:

$$H(s) = (s[1]*256^{k-1} + s[2]*256^{k-2} + \dots + s[k]*256^0) \bmod m \quad (\text{the constant integer } m \text{ is a parameter})$$

Given a sequence of strings k_1, k_2, \dots, k_n , compute the corresponding hash codes

Input

Line 1: n and m ($1 \leq n, m \leq 100000$)

Line $i+1$ ($i = 1, 2, \dots, n$): contains the string k_i (the length of each string is less than or equal to 200)

Output

Each line contains the corresponding hash code of n given strings

Example

Input

4 1000

a

ab

abc

abcd

Output

97

930

179

924

Sample TestCase

C 17



1

Write your Source code here

Source code

C 17

```
1 //C
2 #include <stdio.h>
3
4 int main()
5 {
6
7 }
```

SUBMIT CODE

Currently, this contest problem is not open for submissions

Or

C 17

[Select file](#)

SUBMIT

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Tìm kiếm

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ID	Bài tập	Trạng thái	Message	Điểm
5fd9cc	HASH_FUNCTION_STRING	Accept	<div>i</div>	100
6e8081	HASH_FUNCTION_STRING	Partial	<div>i</div>	80
289a85	HASH_FUNCTION_STRING	Partial	<div>i</div>	80

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