
 PEKING UNIVERSITY JUDGE ONLINE FOR ACM/ICPC			
Online Judge Web Board Home Page F.A.Qs Statistical Charts	Problem Set Problems Submit Problem Online Status Prob.ID: <input type="text"/> <input type="button" value="Go"/>	Authors Register Update your info Authors ranklist <input type="text"/> <input type="button" value="Search"/>	Online Contests Current Contest Past Contests Scheduled Contests Award Contest
User User ID: <input type="text"/> Password: <input type="password"/> <input type="button" value="login"/> Register			
Milking Grid			
Language: <input type="text" value="Default"/>			

Time Limit: 3000MS **Memory Limit:** 65536K
Total Submissions: 9019 **Accepted:** 3927

Description

Every morning when they are milked, the Farmer John's cows form a rectangular grid that is R ($1 \leq R \leq 10,000$) rows by C ($1 \leq C \leq 75$) columns. As we all know, Farmer John is quite the expert on cow behavior, and is currently writing a book about feeding behavior in cows. He notices that if each cow is labeled with an uppercase letter indicating its breed, the two-dimensional pattern formed by his cows during milking sometimes seems to be made from smaller repeating rectangular patterns.

Help FJ find the rectangular unit of smallest area that can be repetitively tiled to make up the entire milking grid. Note that the dimensions of the small rectangular unit do not necessarily need to divide evenly the dimensions of the entire milking grid, as indicated in the sample input below.

Input

* Line 1: Two space-separated integers: R and C

* Lines 2.. $R+1$: The grid that the cows form, with an uppercase letter denoting each cow's breed. Each of the R input lines has C characters with no space or other intervening character.

Output

* Line 1: The area of the smallest unit from which the grid is formed

Sample Input

```
2 5
ABABA
ABABA
```

Sample Output

```
2
```

Hint

The entire milking grid can be constructed from repetitions of the pattern 'AB'.

Source

USACO 2003 Fall

[\[Submit\]](#) [\[Go Back\]](#) [\[Status\]](#) [\[Discuss\]](#)



[Home Page](#)



[Go Back](#)



[To top](#)

All Rights Reserved 2003-2013 Ying Fuchen,Xu Pengcheng,Xie Di
Any problem, Please [Contact Administrator](#)