IEMCO (IEM Coding Olympiad) Level 2

Flower Picking

Max. Marks: 35

Rachel is a techsavy florist. She has a huge farm where she grows tulips. The farm is unevenly distributed with both good tulips which have blossomed perfectly and bad ones which have worn out due to heat. She has an automatic flower picker which can pick flowers off a rectangular part of the farm. But the battery on this machine drains out very very quickly hence she can program it to make a single trip to any part of the farm. What is the size of the largest part of the farm, which "Rachel" would harvest.

Input: Input contains multiple test cases. You are given three integers M, N, F which describe the size of the farm (M rows, N columns, F unit area of such a farm). Then follows the actual map which consists of M lines, each line containing N times the letters 'T' or 'W' standing for " Good Tulips" or "Wornout Tulips". Input terminates with M = N = 0.

Output: Print the size of the largest field, which "Rachel" would harvest.

Constraints: 0 < M, N <= 4000 0 <= F <= 1000000

Sample Input (Plaintext Link)

```
9 10 1
WTWTTTWWWW
WWTWTWTTTW
WWTWTTWWWW
WTTTTTWTTT
WTWTTTWWWT
WWWWTTTWTT
TTTWWTWWWW
TWTTTTWWWT
WTTWWWWTTW
```

```
0 0
```

Sample Output (Plaintext Link)

```
8
```

Time Limit: 5.0 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded when all the testcases pass.

Allowed languages: C, CPP, CLOJURE, CSHARP, GO, HASKELL, JAVA, JAVASCRIPT, JAVASCRIPT_NODE, LISP, OBJECTIVEC, PASCAL, PERL, PHP, PYTHON, RUBY, R, RUST, SCALA

C++ (g++ 4.8.4) ▾ Upload file: Choose File No file chosen

All changes saved

```cpp
#define MAXN 4000

using namespace std;


struct brick
{
    int index, height, left;
    brick(int _index, int _height, int _left) { index = _index; height = _left; }
    brick() {}
};

int main(){
    int m,n,f;
    scanf("%d%d", &m, &n);
    if (m == n && m == 0) return 0;
    scanf("%d", &f);
    int height[MAXN];
    char farm[MAXN];
    do{
        memset(height, 0, sizeof height);
        stack<brick> stog;
        brick top;
        int sol = 0;
        for (int i = 0; i < m; ++i){
            scanf("%s", farm);
            for (int j = 0; j < n; ++j){
                if (farm[j] == 'W'){
                    height[j] = 0;
                }
                else{
                    ++height[j];
                }
```

```
42                  while(!stog.empty() && (top = stog.top()).height > heigh
43                      if (sol < top.height * (j-top.left)){
44                          sol=top.height*(j-top.left);
45                      }
46                      stog.pop();
47                  }
48                  if (stog.empty())
49                      stog.push(brick(j, height[j], 0));
50                  else
51                      stog.push(brick(j, height[j], top.index+1));
52              }
53              while (!stog.empty()){
54                  brick last_element = stog.top();
55                  stog.pop();
56                  if(sol<last_element.height*(n-last_element.left)){
57                      sol=last_element.height*(n-last_element.left);
58                  }
59              }
60          }
61          printf("%lld\n",(long long)sol*f);
62          scanf("%d%d",&m,&n);
63          if (m==n && m==0)
64              return 0;
65          scanf("%d", &f);
66      }while(m!=0);
67      return 0;
68  }
69
```

Press ctrl-space for autocomplete suggestions.

Submit | Compile & Test | Provide custom input | ▶ Play Code (C++)

SUBMISSION RESULT

Judge Environment

Submission ID: 3812166	Result	Score	Time (sec)	Memory (KiB)
now	35 Accepted	35	0.100913	64

Language

C++

	Result	Score	Time (sec)	Memory (KiB)
Input #1	Accepted	0.0	0.100913	64

Compilation Log

No compilation log for this submission.

Tip: You can submit any number of times you want. Your best submission is considered for computing total score.

Your Rating:

COMMENTS (3)

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SHAILESH KUMAR an hour ago

what is f?

0 votes ● Reply ● Message ● Permalink

Pranoy Mukherjee an hour ago

can anybody explain the sample i/o o/p?

0 votes ● Reply ● Message ● Permalink

NIKHIL NIHAL Moderator 39 minutes ago

f is the unit area

0 votes ● Reply ● Message ● Permalink

RECENT SUBMISSIONS

DEVELOPERS	RESULT	LANGUAGE
Sampreet...	0.100913	C++
Subham R...	0.100804	C++
Somesh K...	0.100942	C++
Rishabh	0.361663	C++
Rudra Sa...	0.114004	C++
Kanish K...	0.194182	C++
Rudra Sa...	0.118437	C++
deepak s...	0.100913	C++
raj kama...	0.10082	C++
Kanish K...	0.190607	C++
raj kama...	0.100924	C++
Himadri ...	0.100798	C++
Rudra Sa...	0.123953	C++
Sampreet...	0.101077	C++