Replace submatrix X59162_en

Given a matrix v with dimensions $n \times m$, a Matrix w with dimensions $n' \times m'$ (both matrices are of characters and indexed starting from 0), and given indices i_1, j_1 holding $0 \leq i_1 \leq n - n'$ and $0 \leq j_1 \leq m - m'$, we want to obtain the matrix resulting of modifying v so that w replaces the submatrix of v with dimensions $n' \times m'$ starting from the position (i_1, j_1).
For example, if v is:
nwl**rbb**
mqb**hcd**
arz**owk**
kyhidd
and w is:
xrj
mow
frx
and $i_1 = 0,\ j_1 = 3$, then the resulting matrix of the replacement is:
nwl**xrj**
mqb**mow**
arz**frx**
kyhidd
Complete the function `replace_submat` of the following code to achieve this goal, so that we obtain a program that treats several cases of replacing a submatrix of a given starting matrix.

```
#include <iostream>
#include <vector>

using namespace std;

typedef vector<vector<char> > Mat;

Mat read_mat()
{
  int n,m;
  cin>>n>>m;
  Mat v(n,vector<char> (m));
  for (int i=0;i<n;i++)
    for (int j=0;j<m;j++)
      cin>>v[i][j];
  return v;
}

void write_mat(const Mat& v)
{
  int n=int(v.size());
  int m=int(v[0].size());
  for (int i=0;i<n;i++) {
```

```
    for (int j=0;j<m;j++)
      cout<<v[i][j];
    cout<<endl;
  }
  cout<<endl;
}

// Pre: v is a nxm matrix, w is a n'xm' matrix, and
// 0<=i1<i1+n'<=n and 0<=j1<j1+m'<=m.
// Post: Returns the result of modifying v by inserting
// the contents of w inside v starting since the position i1,j1.
// NOTE: SINCE v IS A NON-CONSTANT PARAMETER PASSED PER VALUE,
// WE CAN MODIFY ITS VALUE DIRECTLY AND RETURN IT.
Mat replace_submat(Mat v,const Mat& w,int i1,int j1)
{
  ...
}

int main()
{
  Mat v=read_mat();
  int i1,j1;

  while (cin>>i1>>j1) {
    Mat w=read_mat();
    write_mat(replace_submat(v,w,i1,j1));
  }
}
```

Exam score: 2.5 **Automatic part:** 100%

Input

The first line of the input has two values $n, m \geq 1$. Next, there is the description of a matrix v of $n \times m$ characters, that is, n lines with m characters at each line, where each character is a lowercase English letter. There is a blank line after the matrix description. Next, there are several cases of queries for replacing submatrices inside v, each one consisting in two integers $i1, j1$ (the position to make the insertion in v), followed by the description of the matrix to make the replacement, in the same format as above. Each two consecutive queries are separated by a blank line.

Output

For each query, there is the corresponding modification of v resulting of the replacement, written in the same format as above (the dimensions must not be written) followed by a blank line.

Sample input

```
4 6
nwlrbb
mqbhcd
arzowk
kyhidd
```

```
0 3
3 3
xrj
mow
frx

3 1
1 5
ldbef

0 0
3 6
bynecd
yggxxp
klorel

2 3
2 1
a
p

1 0
3 3
hop
kmc
oqh
```

Sample output

```
nwlxrj
mqbmow
arzfrx
kyhidd

nwlrbb
mqbhcd
arzowk
kldbef

bynecd
yggxxp
klorel
kyhidd

nwlrbb
mqbhcd
arzawk
kyhpdd

nwlrbb
hophcd
kmcowk
oqhidd
```

Problem information

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