Pattern in a matrix   P64919_en
Examen final d'Informàtica, FME (2015-01-12)

Using the definitions

typedef *vector*<**char**> *Row*;
typedef *vector*<*Row*> *Matrix*;

implement a function

int *pattern* (**const** *Matrix*& *P*, **const** *Matrix*& *M*);

to compute how many times the pattern P appears inside the matrix M. It is guaranteed that both matrices are rectangular. Furthermore, if P has dimensions $r_1 \times c_1$ and M has dimensions $r_2 \times c_2$, then it holds $1 \le r_1 \le r_2 \le 50$ and $1 \le c_1 \le c_2 \le 50$.

For instance, the pattern 2×3 to the left appears twice in the matrix 3×4 to the right.

$$\begin{pmatrix} a & b & b \\ b & b & c \end{pmatrix} \qquad \begin{pmatrix} a & a & b & b \\ a & b & b & c \\ b & b & c & a \end{pmatrix}$$

You may implement auxiliar procedures if needed.

Hint

The expected solution simply checks the pattern on every possible position of the matrix.

Observation

You only need to submit the required procedure; your main program will be ignored.

Problem information

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