Control C401C   P27526_en

Your task is to write a program that starts reading and printing a matrix of integers $n \times m$. Afterwards, for each pair of natural numbers j and k given, print the previous matrix with the columns j and k swapped. The columns are counted from 0 to $m - 1$.

Using the definition

typedef *vector*<*vector*<**int**> > *Matrix*;

your program must implement and use the function

void *swap*(*Matrix*& *mat*, **int** *j*, **int** *k*);

that, given a matrix |mat| and the natural numbers j and k, swaps the columns j and k of |mat|. The indices j and k will always be between 0 and the number of columns of |mat| minus one.

Input

The input starts with the size $n > 0$ and $m > 0$ of the matrix, followed by n lines with m elements each one, followed by a sequence of pairs j, k. Each j and each k is between 0 and $m - 1$.

Output

Your program must print the sequence of matrices composed of the read matrix, followed by the resulted matrix of each swap. Notice that print lines with five dashes to separate the matrices, at the beginning and in the end.

Sample input 1

```
4   6
11  22  33  46  15  32
41  33  94  58  71  32
56  23  45  98  21  12
54  15  37  26  17  99

2 3
5 4
0 1
5 4
```

Sample output 1

```
-----
11  22  33  46  15  32
41  33  94  58  71  32
56  23  45  98  21  12
54  15  37  26  17  99
-----
11  22  46  33  15  32
41  33  58  94  71  32
56  23  98  45  21  12
54  15  26  37  17  99
-----
11  22  46  33  32  15
41  33  58  94  32  71
56  23  98  45  12  21
54  15  26  37  99  17
-----
22  11  46  33  32  15
33  41  58  94  32  71
23  56  98  45  12  21
15  54  26  37  99  17
-----
22  11  46  33  15  32
33  41  58  94  71  32
23  56  98  45  21  12
```

```
15 54 26 37 17 99
```

Sample input 2

```
3 4
1 0 1 1
0 2 0 3
1 1 9 5
```

Sample output 2

```
-----
1 0 1 1
0 2 0 3
1 1 9 5
-----
```

Sample input 3

```
2 2
6 7
8 9

0 1
1 0
0 0
1 1
```

Sample output 3

```
-----
6 7
8 9
-----
7 6
9 8
-----
6 7
8 9
-----
6 7
8 9
-----
6 7
8 9
-----
```

Sample input 4

```
2 1
7
9

0 0
0 0
```

Sample output 4

```
-----
7
9
-----
7
9
-----
7
9
-----
```

Problem information

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