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## No difference multiple of four

P84298\_en

Dinovè Concurs de Programació de la UPC - Final (2021-09-22)

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Consider an  $n \times m$  matrix of natural numbers. Here, we say that two numbers  $x$  and  $y$  of the matrix are neighbours if they are horizontally, vertically or diagonally adjacent. You have to add a number chosen among  $\{2, 3, 5, 8\}$  to each number of the matrix. As a result, for every pair of neighbours  $x$  and  $y$  of the new matrix,  $x - y$  cannot be a multiple of four.

### Input

Input consists of several cases, each one with  $n$  and  $m$ , both between 1 and 100, followed by  $n$  lines, each one with  $m$  integer numbers between 0 and  $10^9$ .

### Output

For every given matrix, print your resulting matrix. If there is more than one solution, print any of them. Print a line with 20 dashes after every matrix.

#### Sample input

```
1 2
1000000000 999999999

2 3
0 1 2
0 1 2

2 3
0 1 2
0 1 2
```

#### Sample output

```
1000000008 1000000001
-----
5 3 4
8 6 5
-----
2 3 10
8 9 4
-----
```

### Problem information

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