
Rotate

X12162_en

To confuse his pursuers, Neo has invented a way to rotate the Matrix. However, Neo can only rotate the Matrix 90° , 180° , or 270° . Help Neo compute a given rotation of the Matrix.

Input

The input consists of several test cases. Each test case starts with the number of rows $1 \leq n \leq 100$ and the number of columns $1 \leq m \leq 100$ of the Matrix, as well as the number of degrees d that Neo wants to rotate the Matrix. This is followed by n rows with m integers each.

Output

For each test case, the matrix that results from rotating the Matrix d degrees.

Sample input 1	Sample output 1
<pre>3 4 90 9 1 2 4 2 7 2 3 7 5 1 3</pre>	<pre>4 3 3 2 2 1 1 7 5 9 2 7</pre>
Sample input 2	Sample output 2
<pre>4 2 0 9 2 4 7 1 5 3 8</pre>	<pre>9 2 4 7 1 5 3 8</pre>
Sample input 3	Sample output 3
<pre>3 3 180 9 1 2 6 2 7 8 4 4</pre>	<pre>4 4 8 7 2 6 2 1 9</pre>

Sample output 1

```
4 3 3
2 2 1
1 7 5
9 2 7
```

Sample input 2

```
4 2 0
9 2
4 7
1 5
3 8
```

Sample output 2

```
9 2
4 7
1 5
3 8
```

Sample input 3

```
3 3 180
9 1 2
6 2 7
8 4 4
```

Sample output 3

```
4 4 8
7 2 6
2 1 9
```

Problem information

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Generation : 2013-09-02 14:05:32

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