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Question - 1

VAMPIRES - Magic Square

A Magic Square is a grid of numbers (same number of rows and columns) where:

- The sum of numbers on each row, column, and diagonals are the SAME

This is a magic square 3X3 :

2	7	6	→15
9	5	1	→15
4	3	8	→15
↙15	↓15	↓15	↓15
			↘15

This is a magic square 4X4:

2	7	12	13
16	9	6	3
5	4	15	10
11	14	1	8

You need to output 2 things :

- First print if the square is magic or not :
 "This is a magic square." if the square is magic
 "This is a not magic square." if the square is not magic

- Then print the square again:
 [[1, 2, 3], [1, 2, 3], [1, 2, 3]]

INPUT:

- Array of array (the grid of number , any size)

OUTPUT:

- A string (see explanation)

CODE START:

#To read a array2D from the console, just write :

```
array2d = eval(input())
```

EXAMPLES:

Input:

```
[[4, 3, 8], [9, 5, 1], [2, 7, 6]]
```

Output:

This is a magic square.

```
[[4, 3, 8], [9, 5, 1], [2, 7, 6]]
```

Input:

```
[[1, 2], [4, 5]]
```

Output:

This is not a magic square.

```
[[1, 2], [4, 5]]
```

Input:

```
[[1, 1], [1, 1]]
```

Output:

This is a magic square.

```
[[1, 1], [1, 1]]
```

Question - 2

VAMPIRE - The string pattern Triangle

You need to print a string as follows:

If N = 5:

```
  *
 * *
* * *
* * * *
* * * * *
```

If N = 3:

```
  *
 * *
* * *
```

INPUT

- a number (the number of rows)

OUTPUT

- a string (the expected grid of *)

EXAMPLES

Input:

2

Output:

*

* *

Input:

4

Output

*

* *

* * *

* * * *

Input:

5

Output

*

* *

* * *

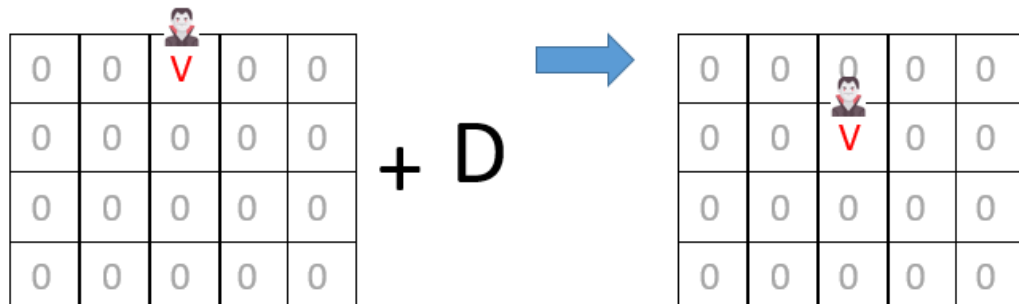
* * * *

* * * * *

Question - 3

VAMPIRE - Move position of Dracula in the grid

We want to move Dracula UP, DOWN, RIGHT and LEFT in a GRID !!!!



We present a grid 2D with an array of array

- the "0" represents an empty cell

- the "D" represent the Dracula

For instance, on this grid, Dracula is at the position (1, 3):

- the row of index 1
- the column of index 3

```
0 0 0 0 0 0
0 0 0 D 0 0
0 0 0 0 0 0
0 0 0 0 0 0
```

We represent the move action using a character:
L (move left), R (more right), U, and D

Note: if outside of the line (left / right / up / downside), Dracula cannot move and stay at the position

We want to print the grid 2D after Dracula has been moved

INPUT

- an array 2D of characters (the grid with the Dracula)
- a character (the move action: L/R/U/D)

OUTPUT

- The new grid, after Dracula has been moved

INPUT	OUTPUT	EXPLANATION
<pre>[[0,0,0, 'D',0,0], [0,0,0,0,0,0], [0,0,0,0,0,0], [0,0,0,0,0,0], [0,0,0,0,0,0],]</pre> R	<pre>[[0,0,0,0, 'D',0], [0,0,0,0,0,0], [0,0,0,0,0,0], [0,0,0,0,0,0],]</pre>	Dracula has moved on the Right!
<pre>[[0,0,0, 'D',0,0], [0,0,0,0,0,0], [0,0,0,0,0,0], [0,0,0,0,0,0], [0,0,0,0,0,0],]</pre>	<pre>[[0,0,0,0,0,0], [0,0,0, 'D',0,0], [0,0,0,0,0,0],]</pre>	Dracula has moved DOWN

] D	[0,0,0,0,0,0],]	
[[0,0,0, 'D',0,0], [0,0,0,0,0,0], [0,0,0,0,0,0], [0,0,0,0,0,0],] U	[[0,0,0, 'D',0,0], [0,0,0,0,0,0], [0,0,0,0,0,0], [0,0,0,0,0,0],] 	Dracula Cannot moved up.