## **Magic Square**

The Lo Shu Magic Square is a grid with 3 rows and 3 columns, as shown in Figure 1. The Lo Shu Magic Square has the following properties:

- The grid contains the numbers 1 through 9 exactly.
- The sum of each row, each column, and each diagonal all add up to 15.

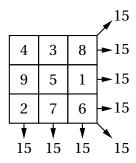


Figure 1: The Lo Shu Magic Square.

Starting from the magic\_square.py template, write a function named print\_square that takes a two-dimensional list of numbers as its argument and prints a 3 by 3 grid showing the numbers in the square.

Then write another function named is\_magic that takes a two-dimensional list of numbers as its argument and returns True if the argument represents a Lo Shu magic square and False otherwise.

Finally, complete the main function of the program to determine if each of the provided squares are Lo Shu magic squares and display the results. It might help to write additional functions to check each of the requirements or handle printing.

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

Format your program to match the samples below. Your output should exactly match the sample output, character for character, including all white space and punctuation. Save your program as magic\_square.py and submit it along with a screenshot showing a test run of your program.

## Terminal \$ python magic\_square.py Your square is: 1 2 3 4 5 6 7 8 9 It is not a Lo Shu magic square. Your square is: 5 5 5 5 5 5 5 5 5 It is not a Lo Shu magic square. Your square is: 4 9 2 3 5 7 8 1 6 It is a Lo Shu magic square!