07.4 - Magic Square

The Lo Shu Magic Square is a grid of numbers with 3 rows and 3 columns, which 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.

An example of the Lo Shu Magic Square is shown in Figure 1.

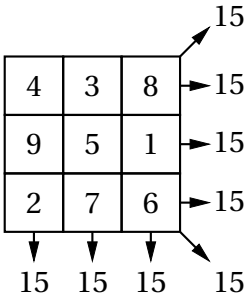

Figure 1: The Lo Shu Magic Square.

Write a function named `print_square` that takes a two-dimensional list representing a 3 by 3 grid of numbers as its argument and prints the grid showing the numbers in the square. Then write another function named `is_magic` that takes a similar two-dimensional list of numbers as its argument and returns the boolean value `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. The provided squares are:

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_login.py`, where `login` is your Purdue login. Then submit it along with a screenshot showing a test run of your program.

Terminal

```
$ python magic_square_login.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!
```