

# Assignment 2

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## Python and Numpy

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

A magic square of order  $n$  is a square matrix in which the sum of all the elements in each row, column and diagonal is equal. The sum is called the magic constant or magic sum of the magic square.

**Note :** Use only the numpy functions.

**Your task:** Let `arr` be a numpy array of shape  $n \times n$ . You have to find the sum of the elements of each row, each column and the two body diagonals. If they all are equal then print “YES” along with the magic sum otherwise print “NO”.

**Prerequisites :** Basic programming idea (till functions)

**Study material :**

**For Python**

- <https://www.youtube.com/playlist?list=PLQVvva0QuDe8XSftW-RAxdo6OmaeL85M> (Video 3 to 14)
- A Byte of Python (attached, till functions)

**For Numpy**

- <https://www.datacamp.com/community/tutorials/python-numpy-tutorial>
- <http://cs231n.github.io/python-numpy-tutorial/#numpy>

**Solution will be given on 8<sup>th</sup> December 2019 (Sunday).**