

**Lab Goal :** The lab was designed to help you review classes, objects, files, arrays, and matrices.

**Lab Description :** Write a program to make a magic square of numbers. A *magic square* is matrix of numbers. Every column, every row, and every diagonal add up to the same value.

15	15	15	15
8	1	6	15
3	5	7	15
4	9	2	15

**Sample Input :**

5  
1  
7  
3

**Files Needed ::**

MagicSquare2.java  
MagicSquare2Runner.java  
magic2.dat

**Sample Output :**

```
17    24    1    8    15
23    5     7    14   16
4     6    13    20   22
10    12    19    21    3
11    18    25    2    9
```

1

```
30    39    48    1    10    19    28
38    47    7     9    18    27    29
46    6     8    17    26    35    37
5     14    16    25    34    36    45
13    15    24    33    42    44    4
21    23    32    41    43    3    12
22    31    40    49    2     11    20
```

```
8     1     6
3     5     7
4     9     2
```

### algorithm help

Place **1** in the middle of the top row.  
Start a loop for the rest of numbers to insert  
    decrease row by one  
    increase col by one  
    increase num by one

make sure row and col are in bounds

if current spot is not zero ( spot is filled )