Magic Square – you’re a wizard!

**A magic square** is a square array of positive integers such that the sum of each row, column, and diagonal is the same constant.  **Use this example in testing your code, one of the most famous Magic Squares**

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

Is a magic square whose constant is 34.

Write a program to input lines of data into a two dimensional array. (data file or initializer list). The program should determine whether or not the square is a magic square. Program efficiency should be such that computations end as soon as two different sums have been computed. //comment this code

Sample Output:

***2 7 6***

***9 5 1***

***4 3 8***

***The square is a magic square and the magic number is 15***

***4 9 2***

***3 5 7***

***8 1 4***

***The square is not a magic square***

***Mathy or Magic Square class –***

***public MagicSquare(int [] [] array)***

***sets the magicnum = one row/col of the array***

***public boolean isMagic ();***

***getMagicNum()***

***setMagicSquare(int [] [] array)***

***//add any support methods! you need***

***int addRow(int row), int[] addRows()***

***int addColumns(int col), int[] addColumns()***

***//comment loops – what row, column, or diagonal are the totaling***

***Client code (main)***

***Initializer list use to make 2d array***

***Constructs several MS objects***

***Displays appropriate message if MS is magic or not***

**Submit:**

**MS class and methods**

**Teacher will check the output of main, I will sign MS class**

**main is MagicSquereTest it tests different sizes of Magic squares and one non-magic square**