

# MAGIC SQUARE

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# MAGIC SQUARE IN ODD ORDER

The sums of the numbers in each row, each column, and both main diagonals are the same.

# USER INTERFACE

- Input n to set the magic square to n-order. ( $3 \leq n \leq 21$ )
- Choose where you want the numbers start to fill in and the moving direction
- Press the button to generate the magic square!

The screenshot shows a window titled "Magic Square" with a tabbed interface. The "Odd" tab is selected. The main area contains the following elements:

- A label "Input the size of the Magic Square" above an input field "n = Input n". A red box highlights the input field, and an arrow points from the first bullet point to it.
- A note "(n should be an odd number)" below the input field.
- A "Starting from" section with four radio buttons: Top, Left, Right, and Bottom. A red box highlights this section, and an arrow points from the second bullet point to it.
- A "Move to" section with four radio buttons: Upper Left, Upper Right, Lower Left, and Lower Right.
- A "Generate Magic Square" button. A red box highlights this button, and an arrow points from the third bullet point to it.

At the bottom, there is a "Memo" section with a tabbed interface. The "Fixed Space Memo" tab is selected, showing a large text area. Other tabs include "Fixed Memo Text", "Fixed Memo Text Check", and "String Grid".

# MAGIC SQUARE GENERATED (EX: N = 5)

Magic Square 5x5 printed in Memo

Memo	Fixed Space Memo	Fixed Memo Text	Fixed Memo Text Check	String Grid
< Magic Square 5x5 > 15 8 1 24 17 16 14 7 5 23 22 20 13 6 4 3 21 19 12 10 9 2 25 18 11				

Simply print it out

in Fixed Memo Text

Memo	Fixed Space Memo	Fixed Memo Text	Fixed Memo Text Check	String Grid
< Magic Square 5x5 > 15 8 1 24 17 16 14 7 5 23 22 20 13 6 4 3 21 19 12 10 9 2 25 18 11				

The font Consolas makes the square printed looks very neat

in Fixed Space Memo

Memo	Fixed Space Memo	Fixed Memo Text	Fixed Memo Text Check	String Grid
< Magic Square 5x5 > 15 8 1 24 17 16 14 7 5 23 22 20 13 6 4 3 21 19 12 10 9 2 25 18 11				

Spaced the number in the Magic Square evenly, but since the characters don't have the same width, it doesn't look neat

with Sum Check

Memo	Fixed Space Memo	Fixed Memo Text	Fixed Memo Text Check	String Grid
< Magic Square 5x5 > 15 8 1 24 17 -65 16 14 7 5 23 -65 22 20 13 6 4 -65 3 21 19 12 10 -65 9 2 25 18 11 -65  65  65  65  65  65 \65 /65				

The sums of each row, column, and the main diagonals are represented.

# MAGIC SQUARE GENERATED (EX: N = 5)

in StringGrid

Memo	Fixed Space Memo	Fixed Memo Text	Fixed Memo Text Check	String Grid	
15	8	1	24	17	- 65
16	14	7	5	23	- 65
22	20	13	6	4	- 65
3	21	19	12	10	- 65
9	2	25	18	11	- 65
65	65	65	65	65	\65 /65

Magic Square and the sums are represented in the StringGrid.

Those cells with sums are in light blue.

# IF YOU FORGET TO CHECK THE BUTTON

Input the size of the Magic Square

n =

(n should be an odd number)

Starting from

☐ Top  
☐ Left  
☐ Right  
☐ Bottom

Move to

☐ Upper Left  
☒ Upper Right  
☐ Lower Left  
☐ Lower Right

Generate Magic Square

Fixed Space Memo

Hw2\_magicsquare\_v2\_project

Please choose a starting position

OK

Move to

☐ Upper Left  
☐ Upper Right  
☐ Lower Left  
☐ Lower Right

Generate Magic Square

Hw2\_magicsquare\_v2\_project

Please choose a direction

OK