

Figured Magic Squares of Order 38 Using Bordered Magic Rectangles: A Systematic Procedure

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Abstract

*Recently, the author constructed even order magic squares from orders 6 to 30 with different styles and models, for examples the order 20 is with 1616 magic squares, order 18 with 810 magic squares, etc. These can be seen at [31, 32, 33, 33, 34, 35, 36, 37]. The aim is to proceed for the further orders of magic squares. A systematic procedure to construct these magic squares is given. It is based on the magic squares of orders 4, 6, 8 etc. at **corners** and small blocks of **bordered magic rectangles** forming external borders. Then the internal borders are filled with previous known magic squares. The presentation is in figures instead of numbers. The readers can find replies in numbers from references given above. For the orders multiples of 4, we can always write magic squares with equal sums of blocks of magic squares of order 4. This procedure is very helpful for the orders of type $2p$, where p is a prime number, for example, 14, 22, 26, 34, 38, etc. For the orders like 18, 30, 42, etc. we can make good external blocks with order 4, and for orders like 16, 20, 28, 32, etc. we can make good external borders of order 6, and so on. Based on this idea the author wrote even order magic squares up to order 36. For details refer [38, 39, 40, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49]. This work is for the magic squares of order 38 represented in terms of figures.*

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1 Introduction

The magic sums of order n of consecutive numbers from 1 to n^2 is given by

$$S_{n \times n} := \frac{n \times (1 + n^2)}{2}, n \geq 3. \quad (1)$$

Recently, the author [31, 32, 33, 34, 35, 36, 37] constructed magic squares of even orders from 8 to 20 using **bordered magic rectangles**. This construction is based on two aspects:

- (i) Using **magic rectangles** or **bordered magic rectangles**.
- (ii) Using algebraic formula like $(a + b)^2, a \neq b$.

For the above magic squares no construction procedure is explained. The aim is to proceed further orders of magic squares. In this work, a systematic procedure to construct these magic squares is given. It is based on the magic squares and bordered magic rectangles (BMR) of orders 4, 6, 8 etc forming external borders. Then the internal borders are filled with previous known magic squares. For the orders multiples of 4, we can always write magic squares with equal sums blocks of magic squares of order 4. This procedure is very helpful for the orders of type $2p$, where p is a prime number, for examples, 14, 22, 26, 34, 38, etc. For the orders like 18, 30, etc., we can make good external blocks with order 4, and for orders like 16, 20, 28, 32, etc. we can make good external borders of order 6, and so on. There is no explanations for the orders 6, 8, 10 and 12. The real construction starts from the order 14.

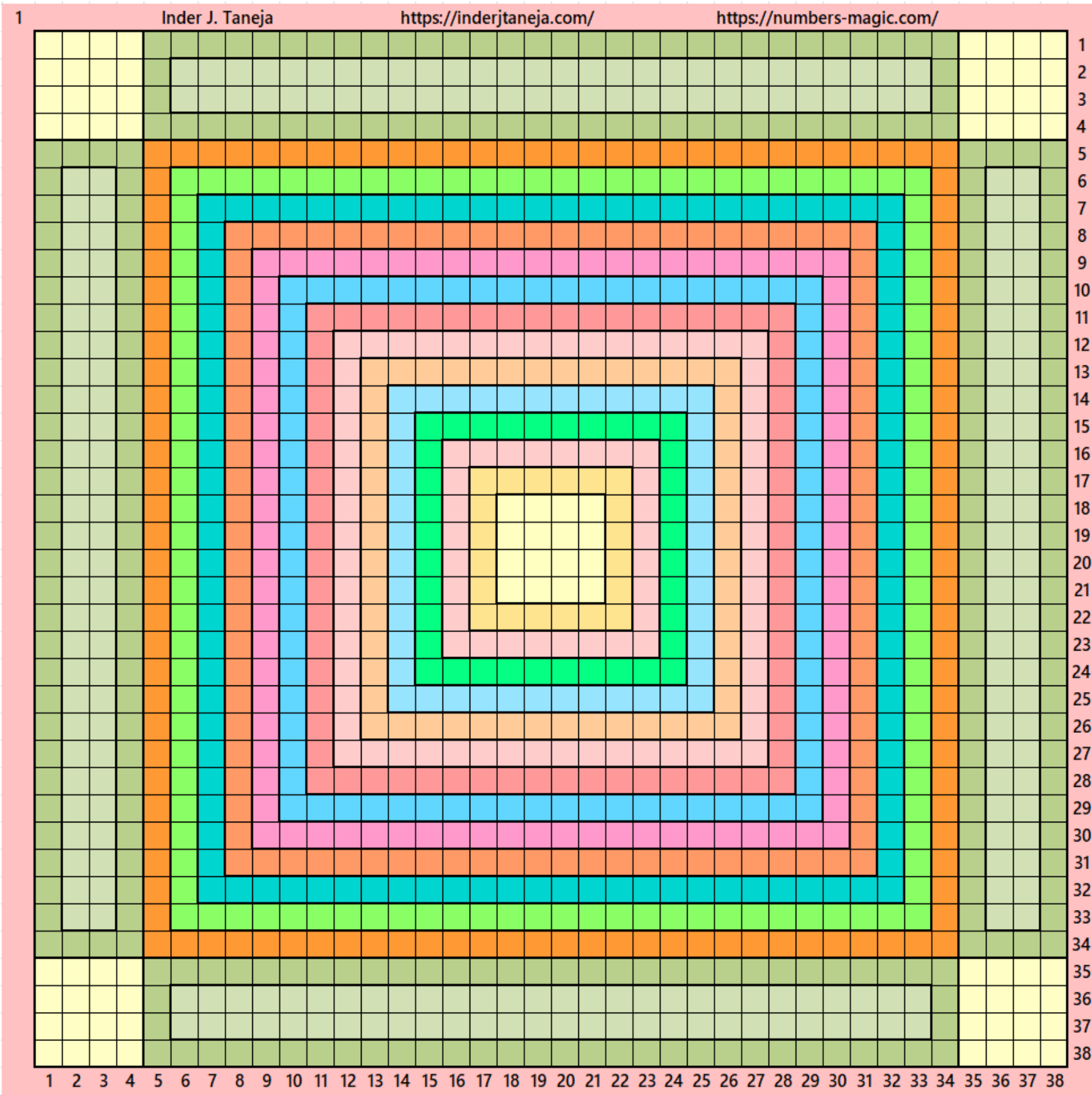
The whole the work is done manually, without use of any programming language, except for the constructions of small blocks of **bordered magic rectangles**. This construction is based on the software due to H. While [1]. Later, these BRMs are readopted according to distribution of each magic square. The distribution of **magic squares** or **bordered magic rectangles** is based on **half-sequential** numbers. By **half-sequential** numbers we understand that the total numbers in each case are divided in two equal parts. The first part is one sequence and the second part is another sequence. Due to **half-sequential** numbers, it is not possible to construct all orders **bordered magic rectangles**. In Appendix 3, there are tables showing the existence of these **bordered magic rectangles** for **half-sequential**. For simplicity, we shall write **BMR** as **bordered magic rectangle**. This work is for order 38. The previous works can be seen at [38, 39, 40, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49].

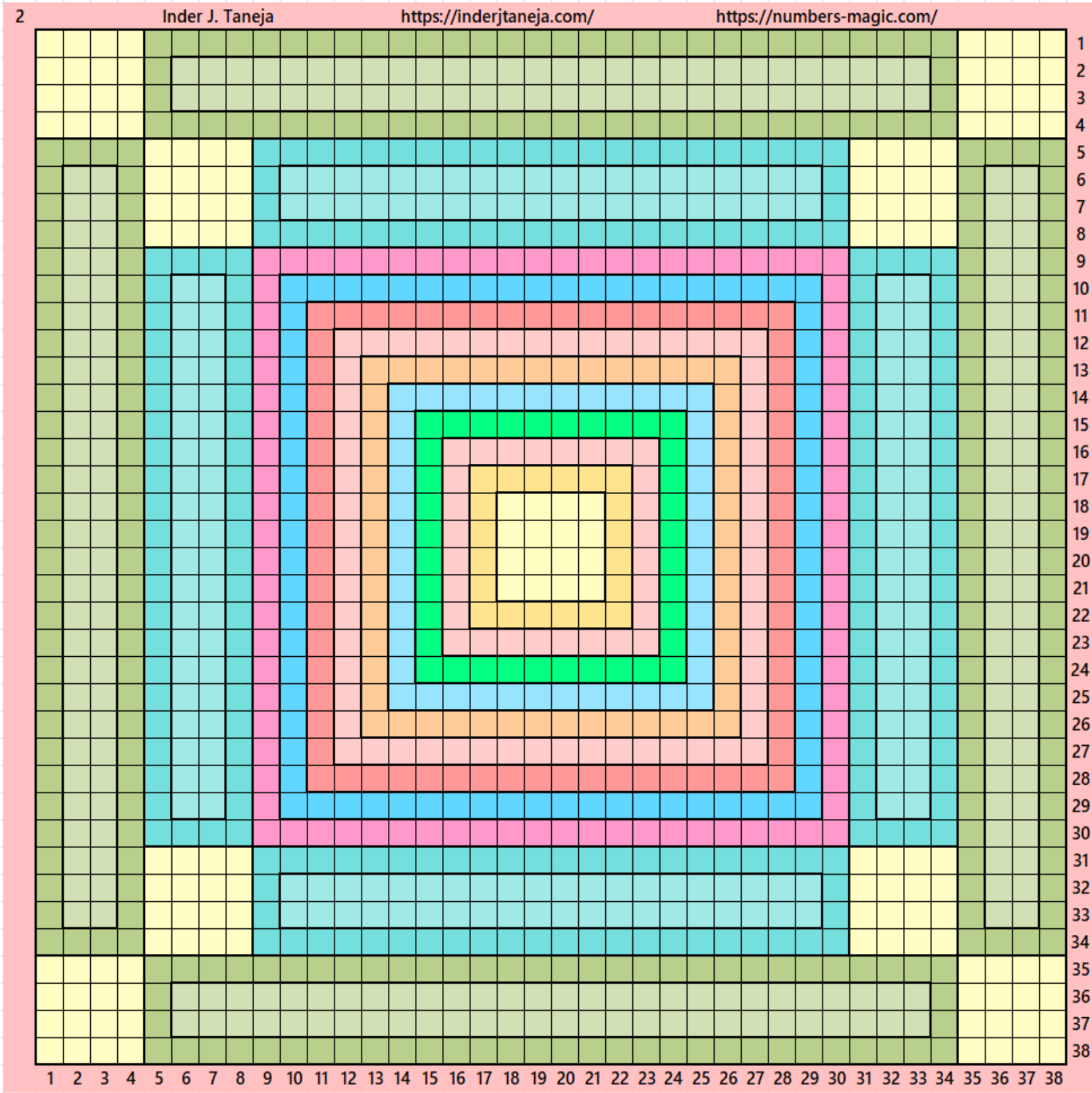
Remark 1. *The bordered magic squares and bordered magic rectangles are with the property that if we remove external borders in each case, still we are left with bordered magic squares and bordered magic rectangles respectively with sequential number entries. The whole work is in figures instead of numbers. In the same magic square the small equal figures represents equal sums magic squares and/or equal sums bordered magic rectangles.*

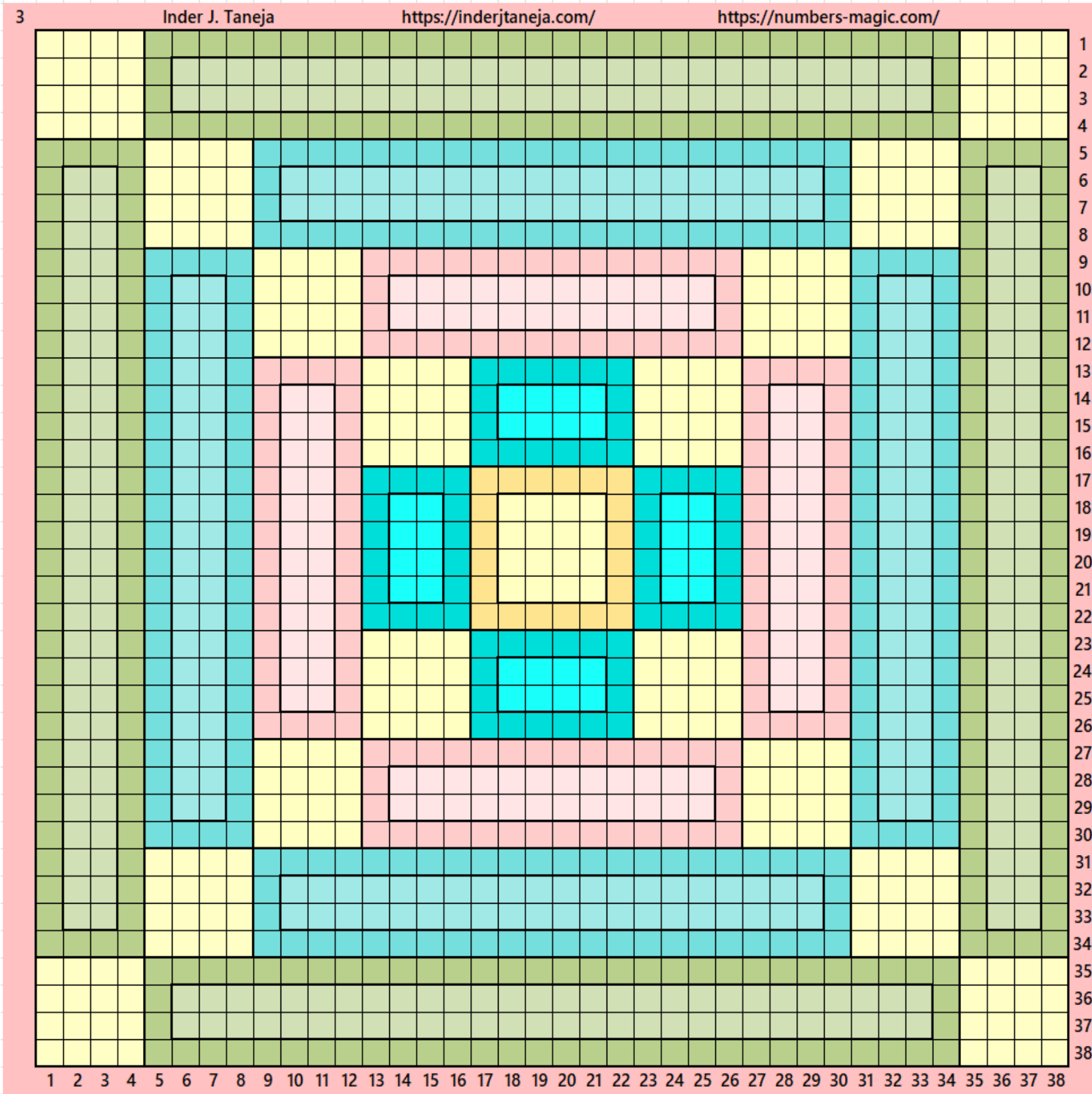
2 Magic Squares of Order 38

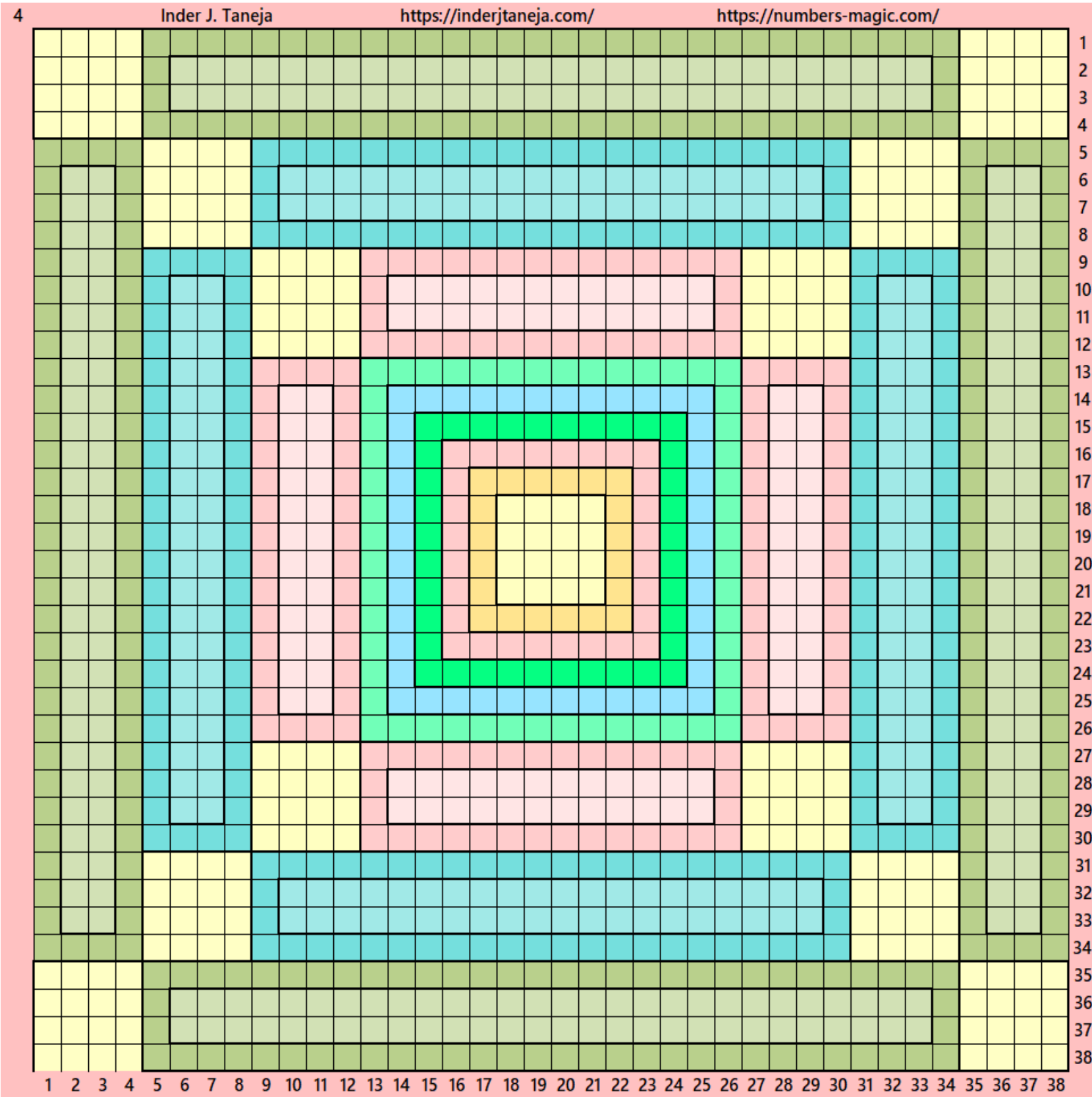
This section brings in figures (without numbers) magic squares of order 38.

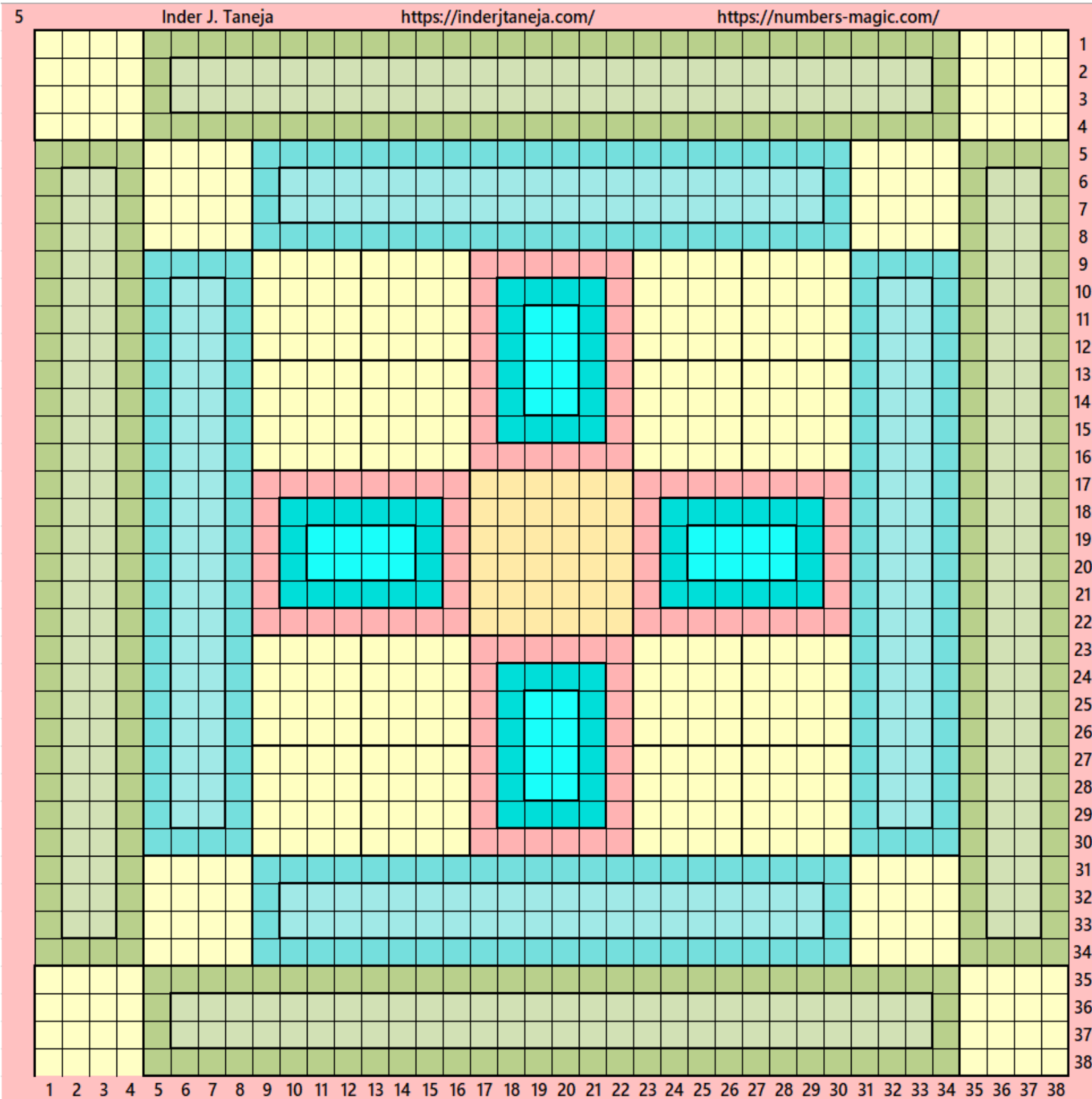
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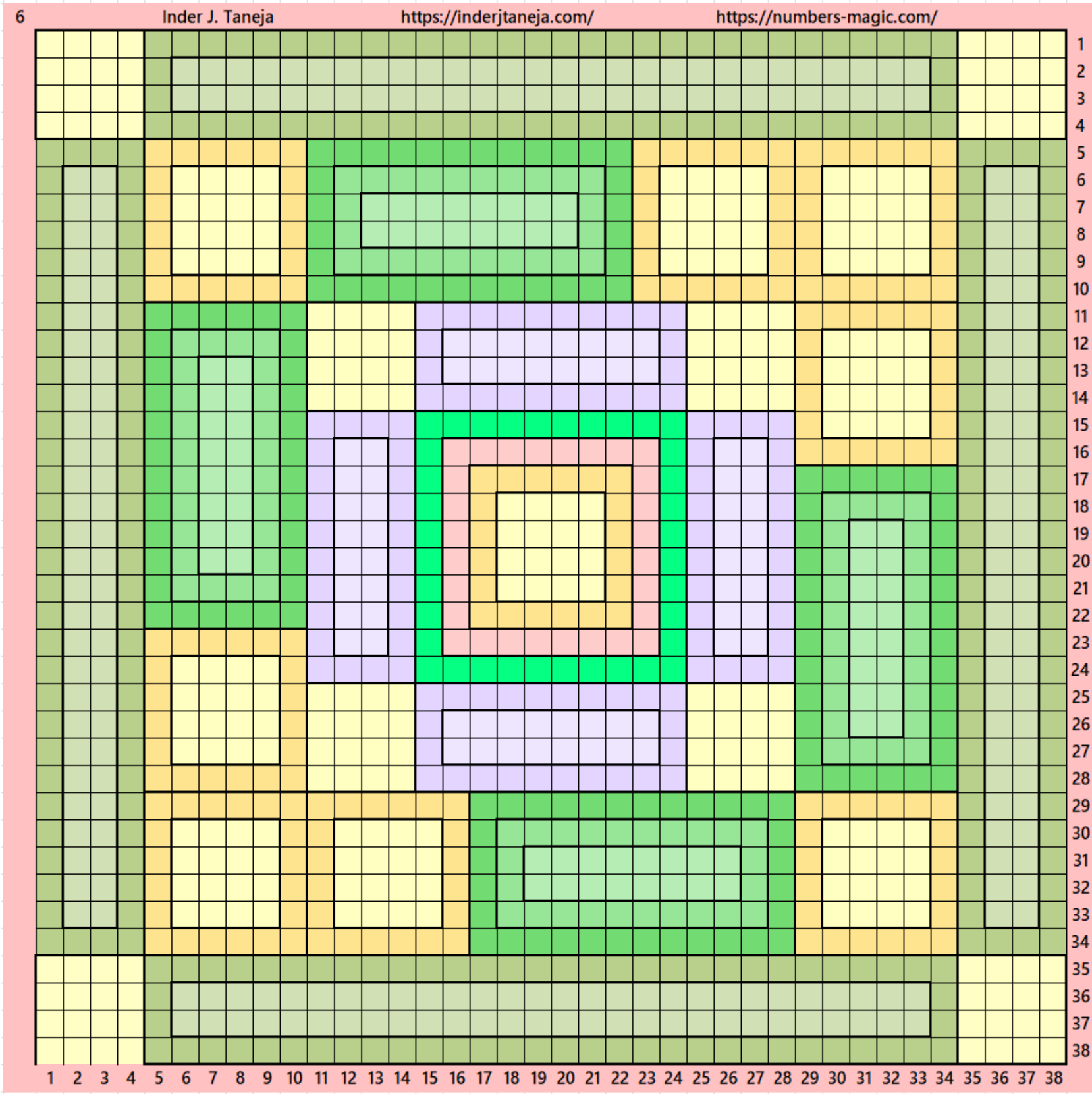




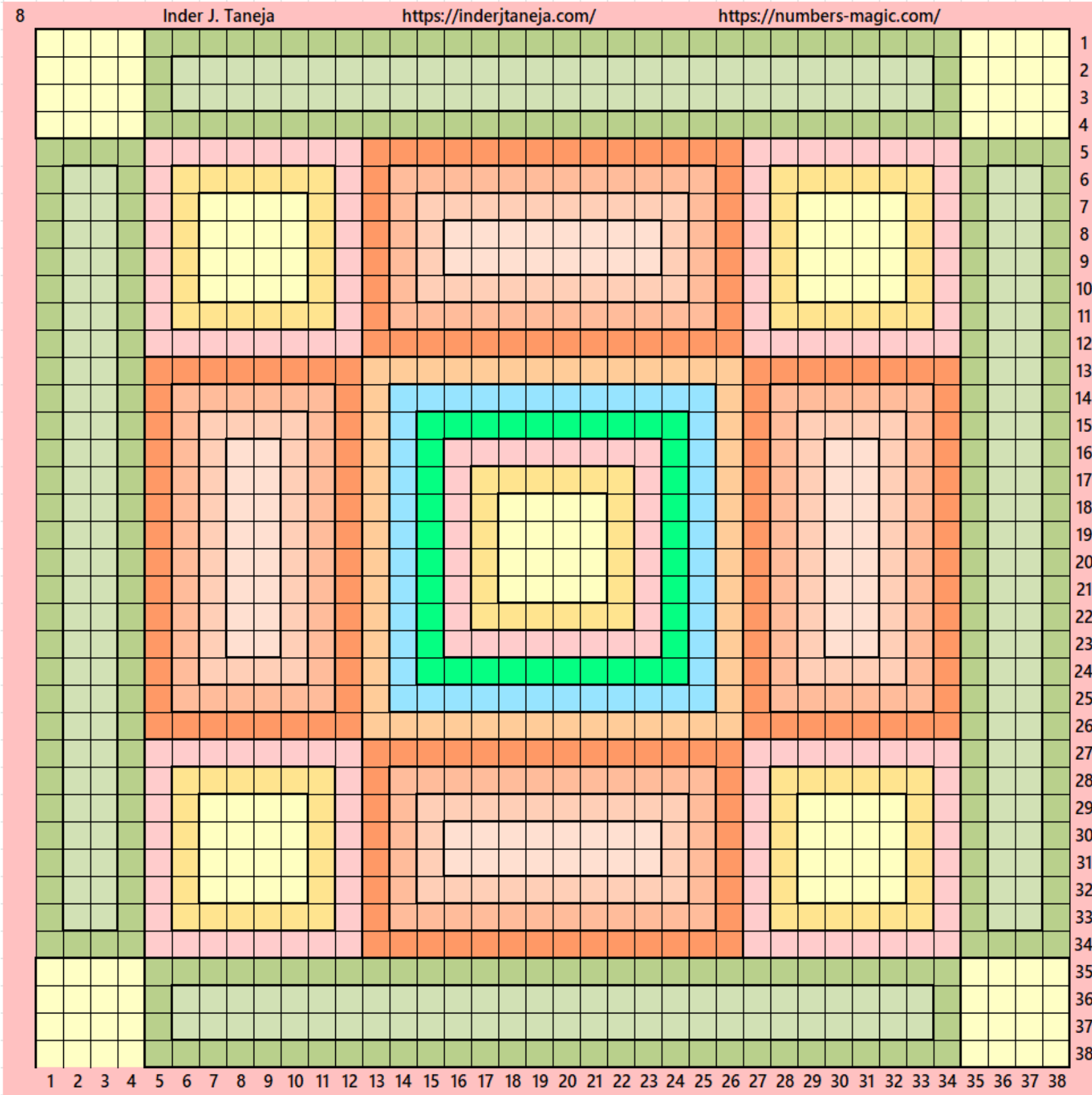


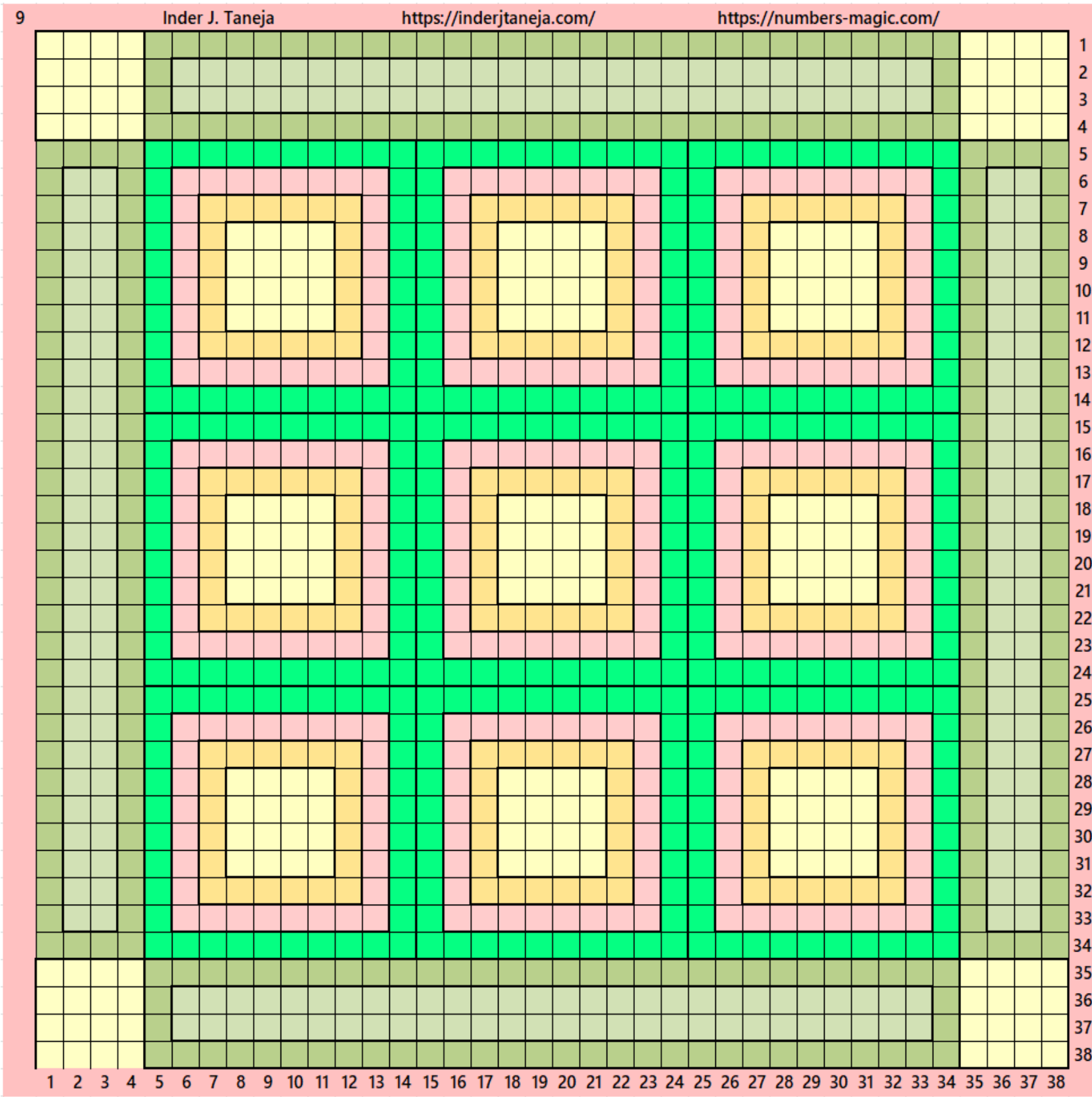


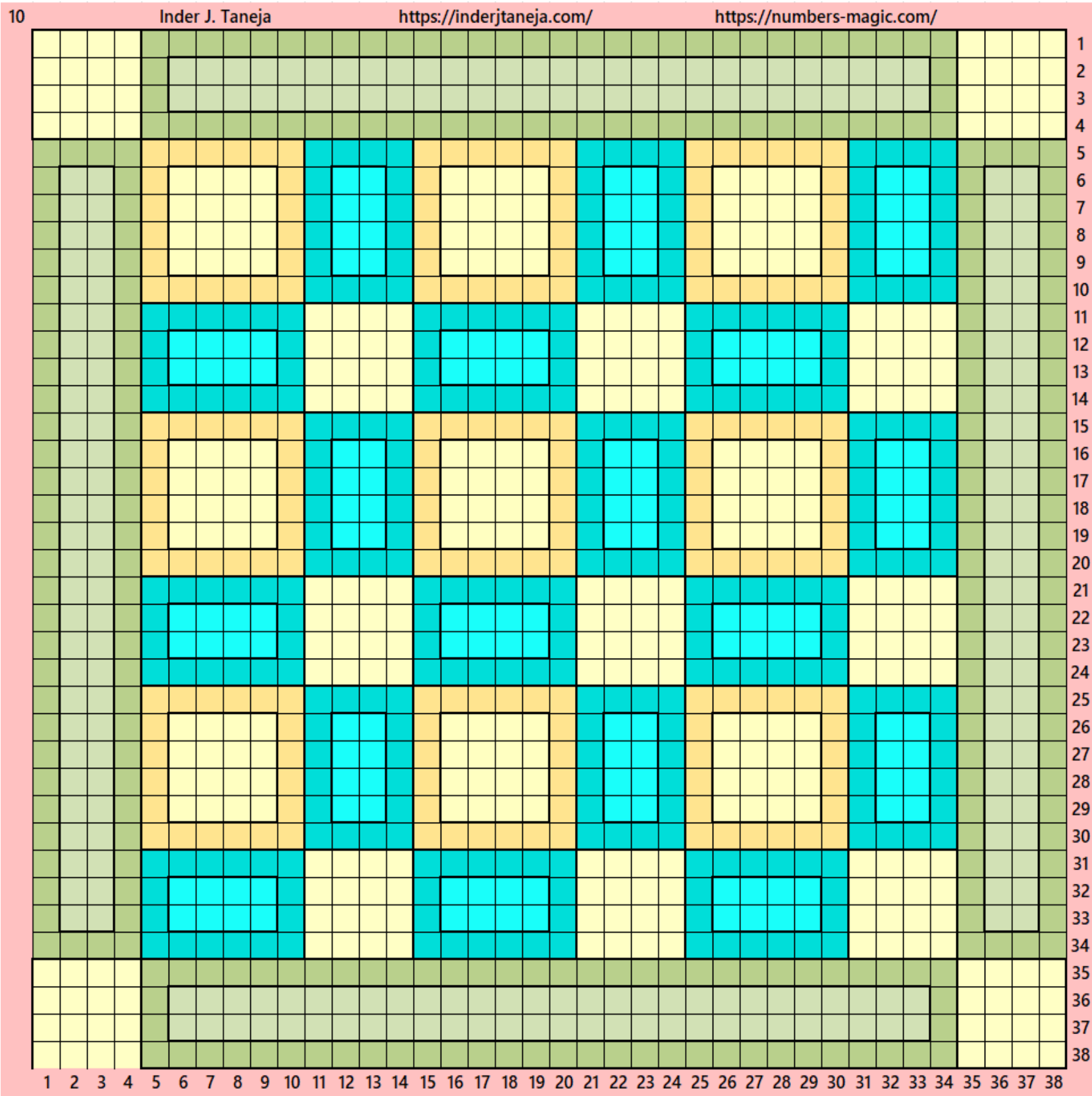


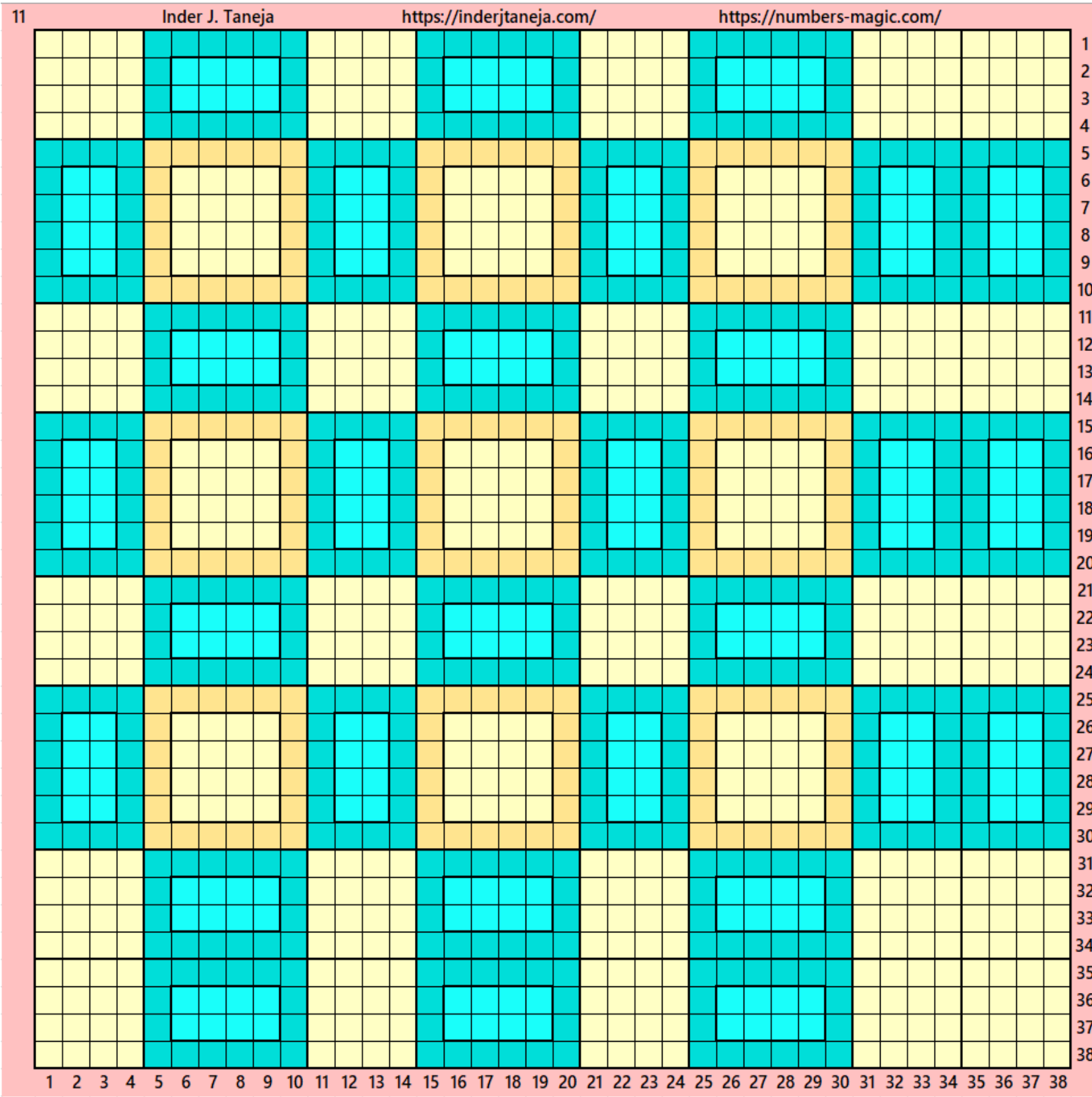


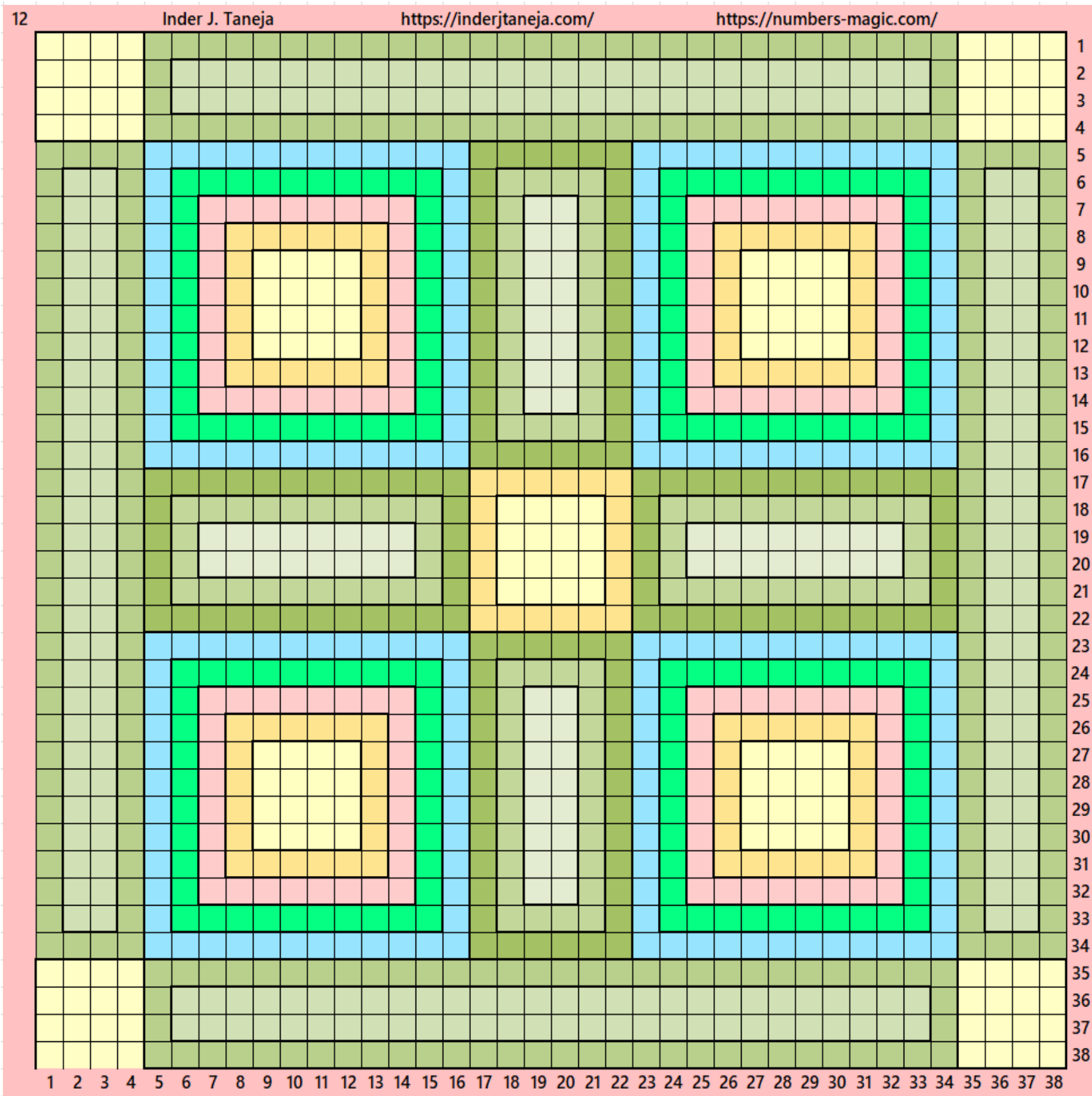




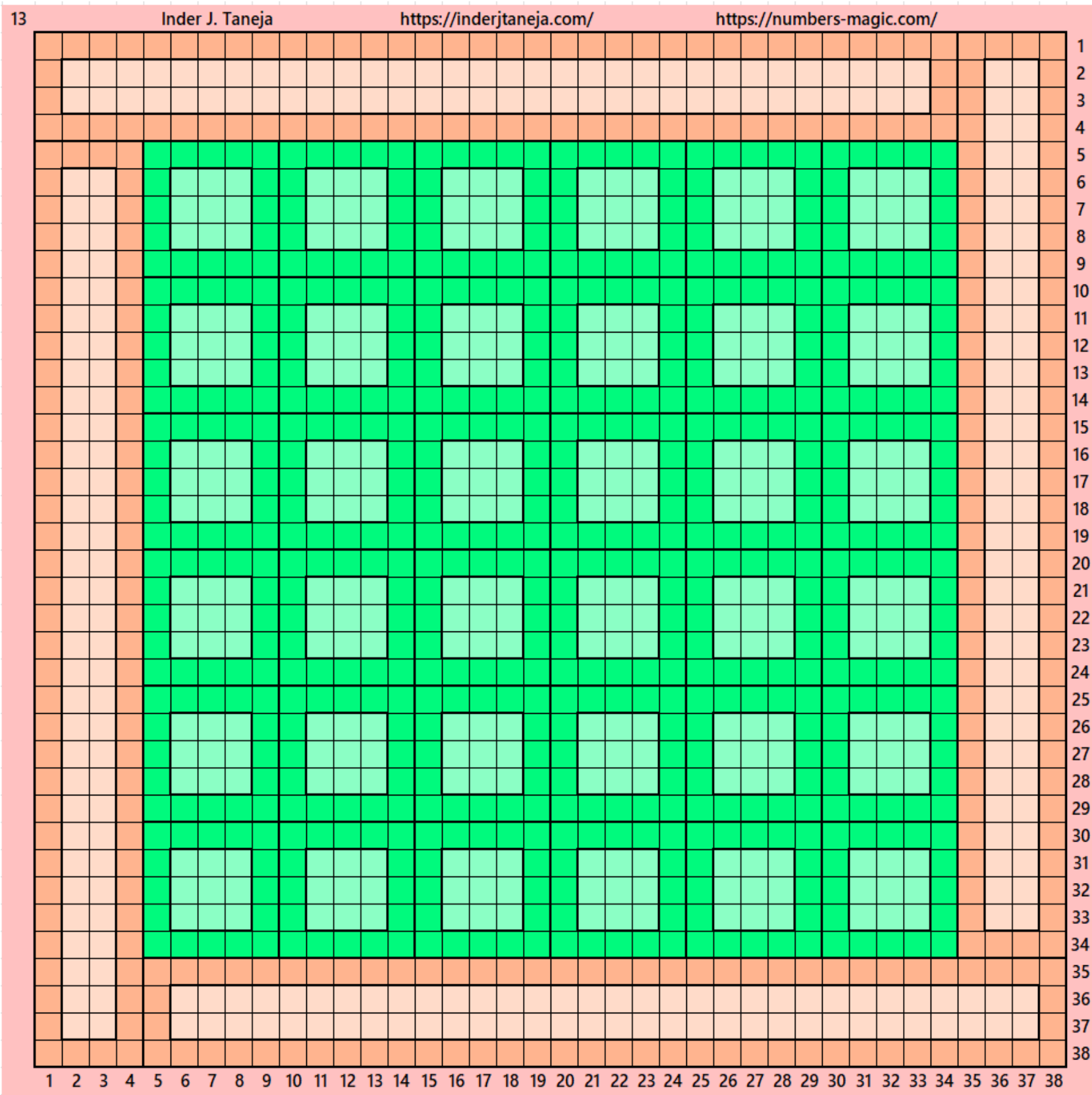


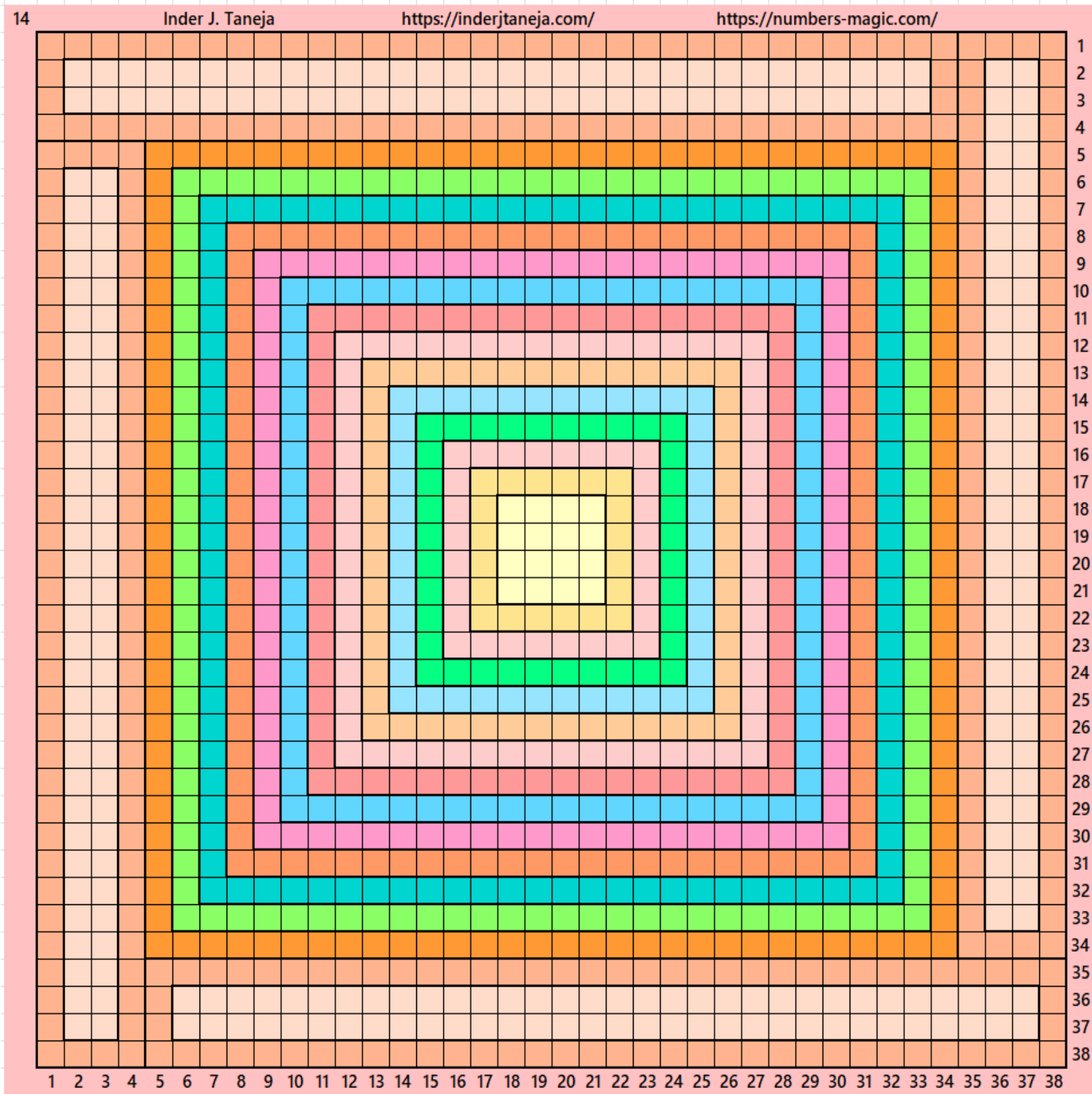




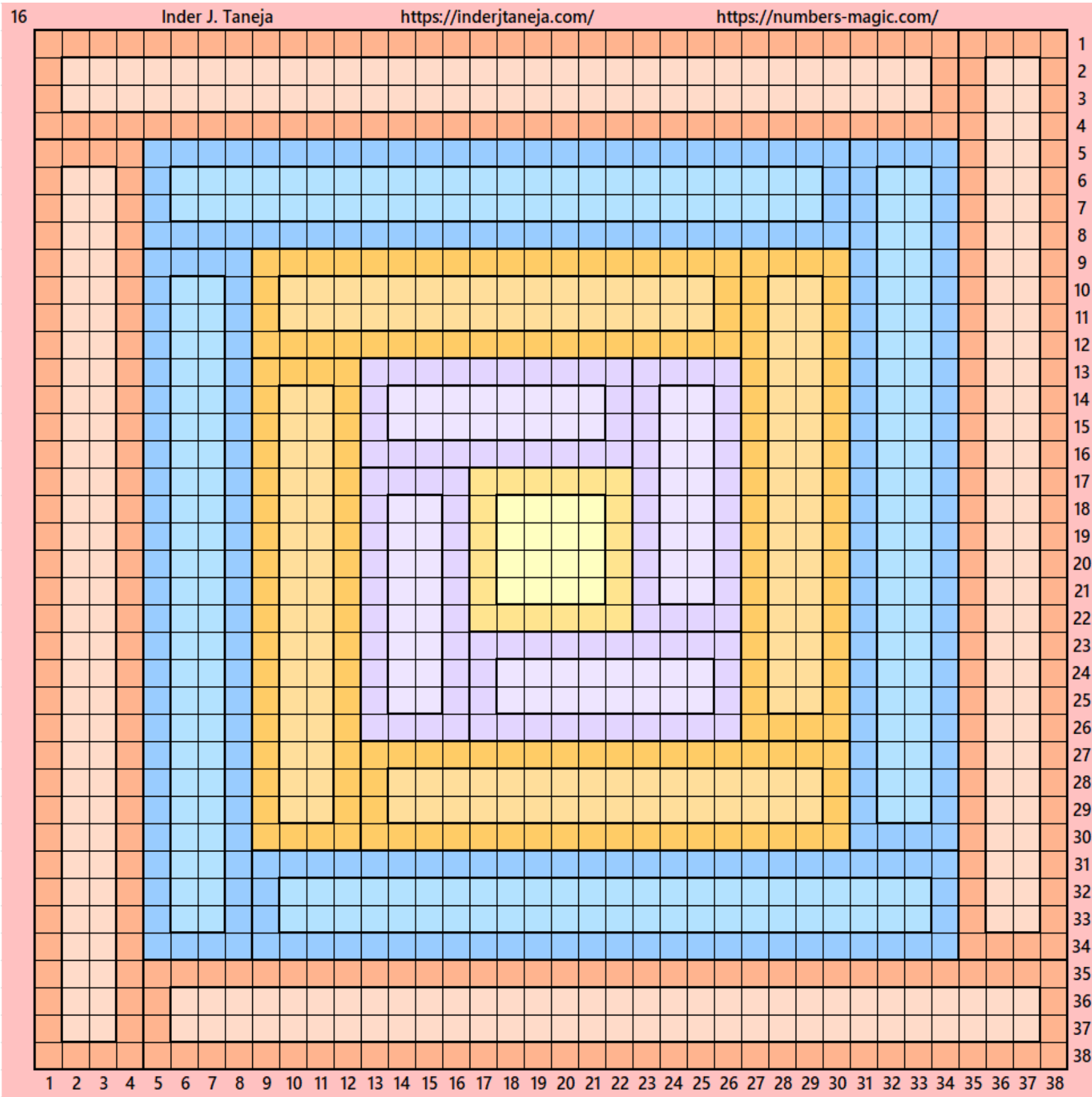


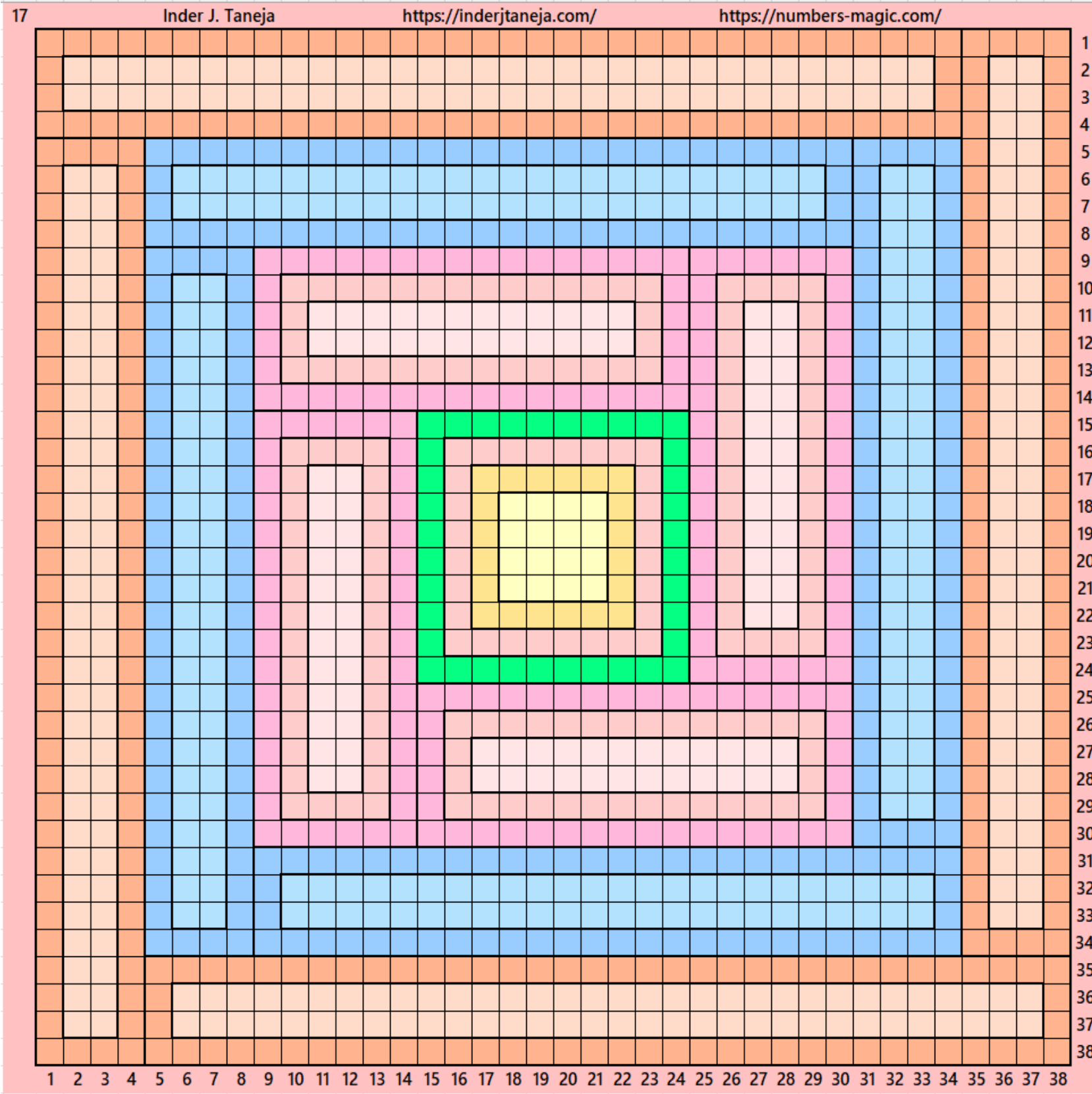
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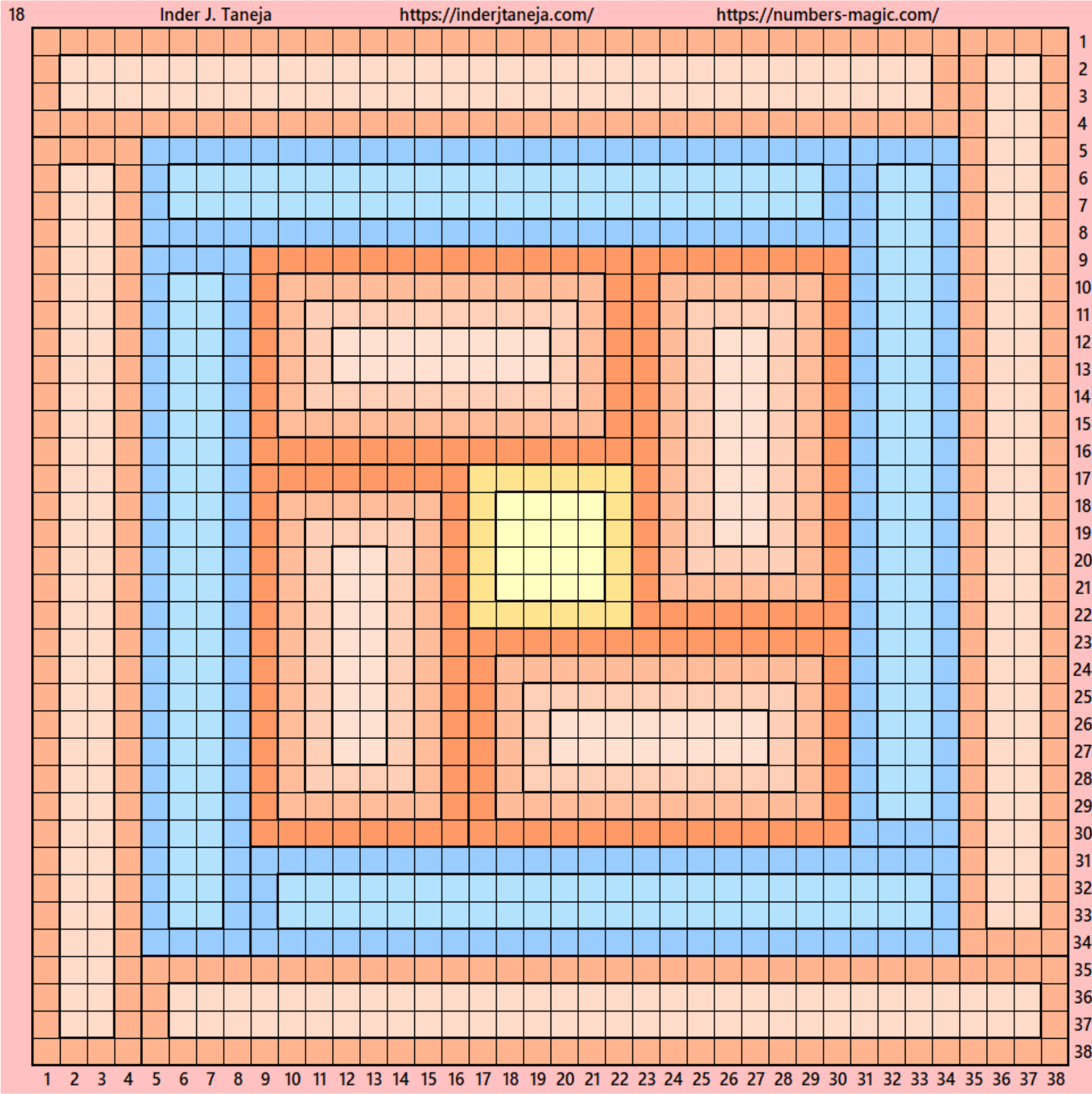


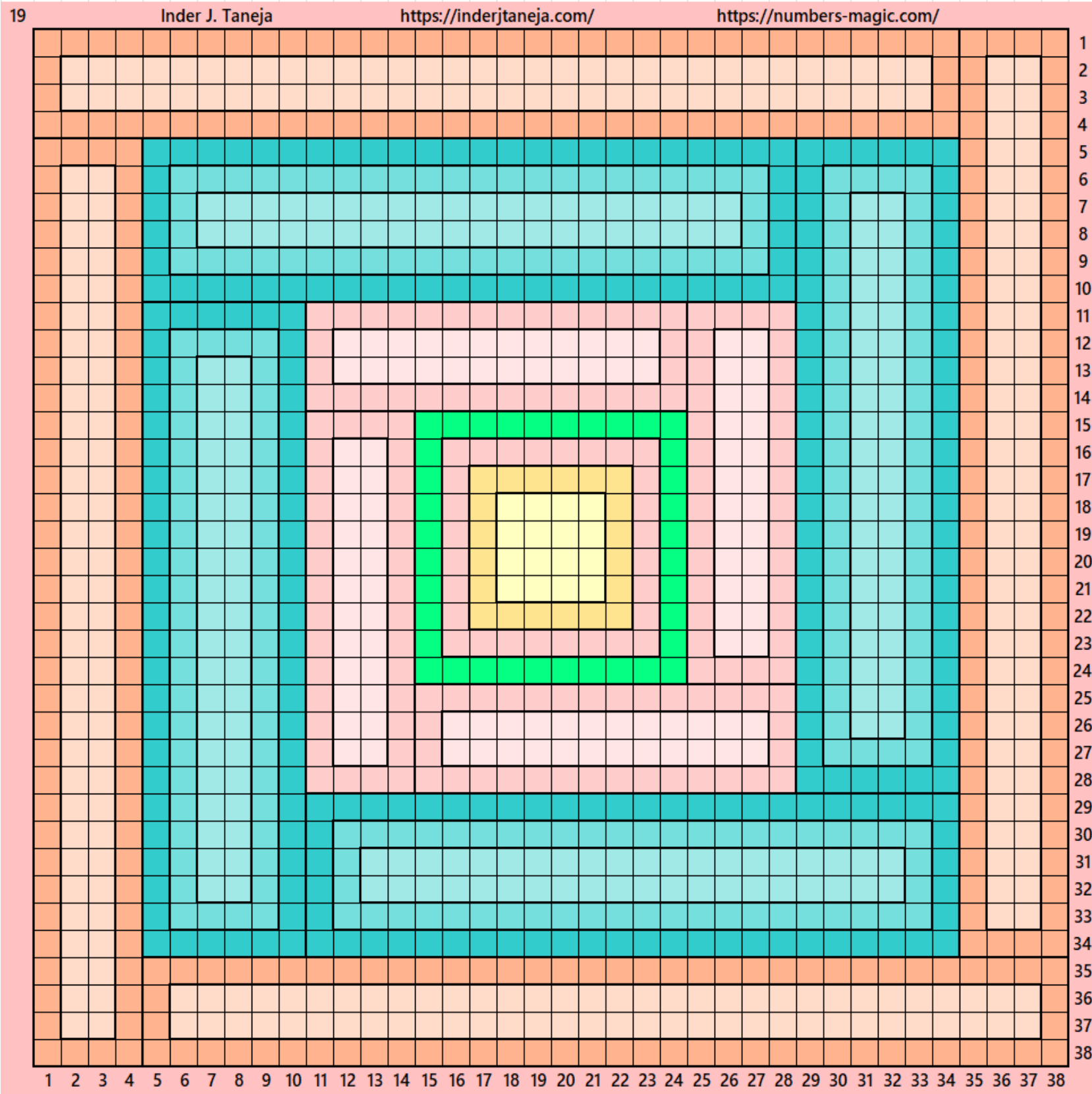


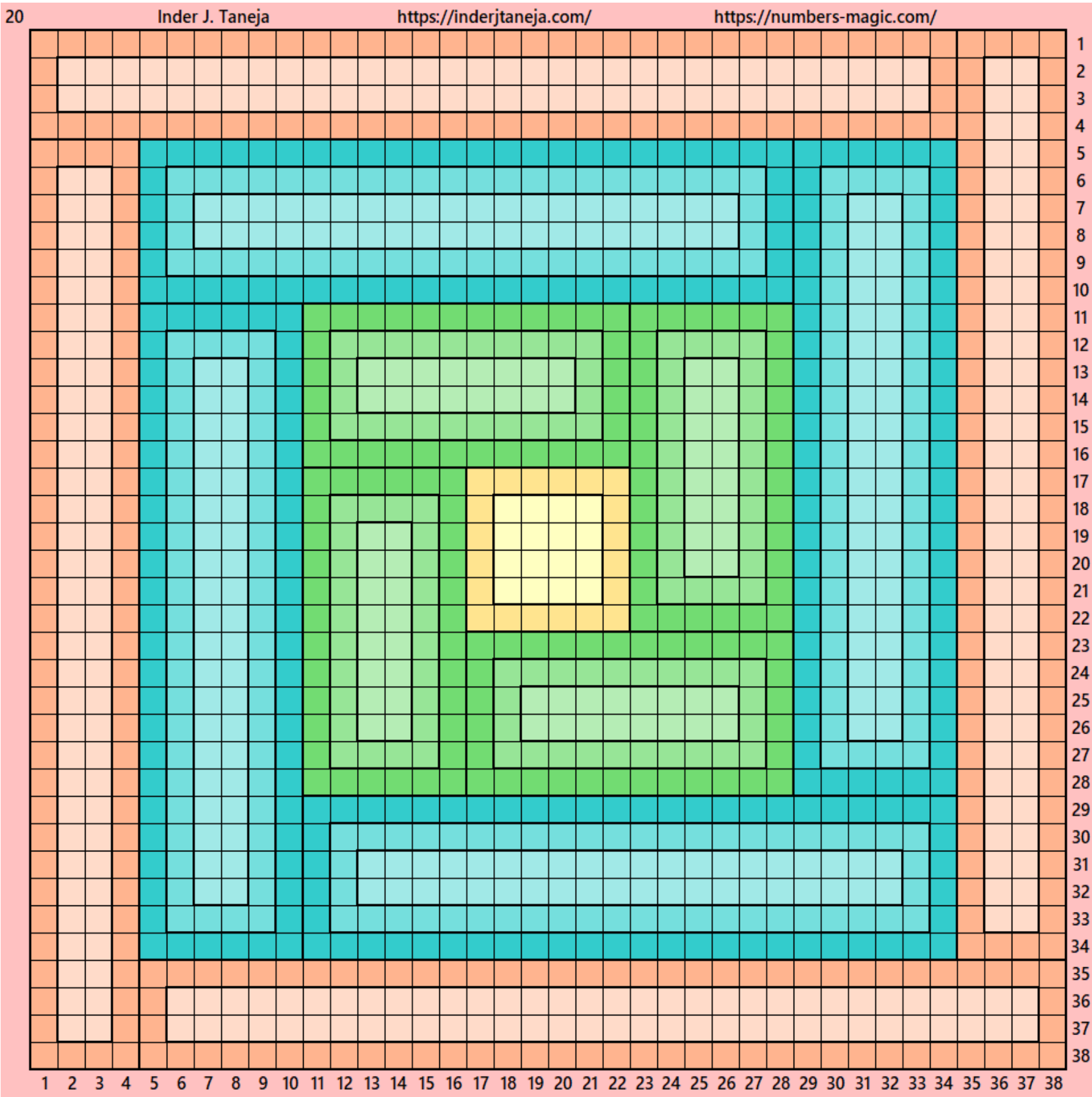


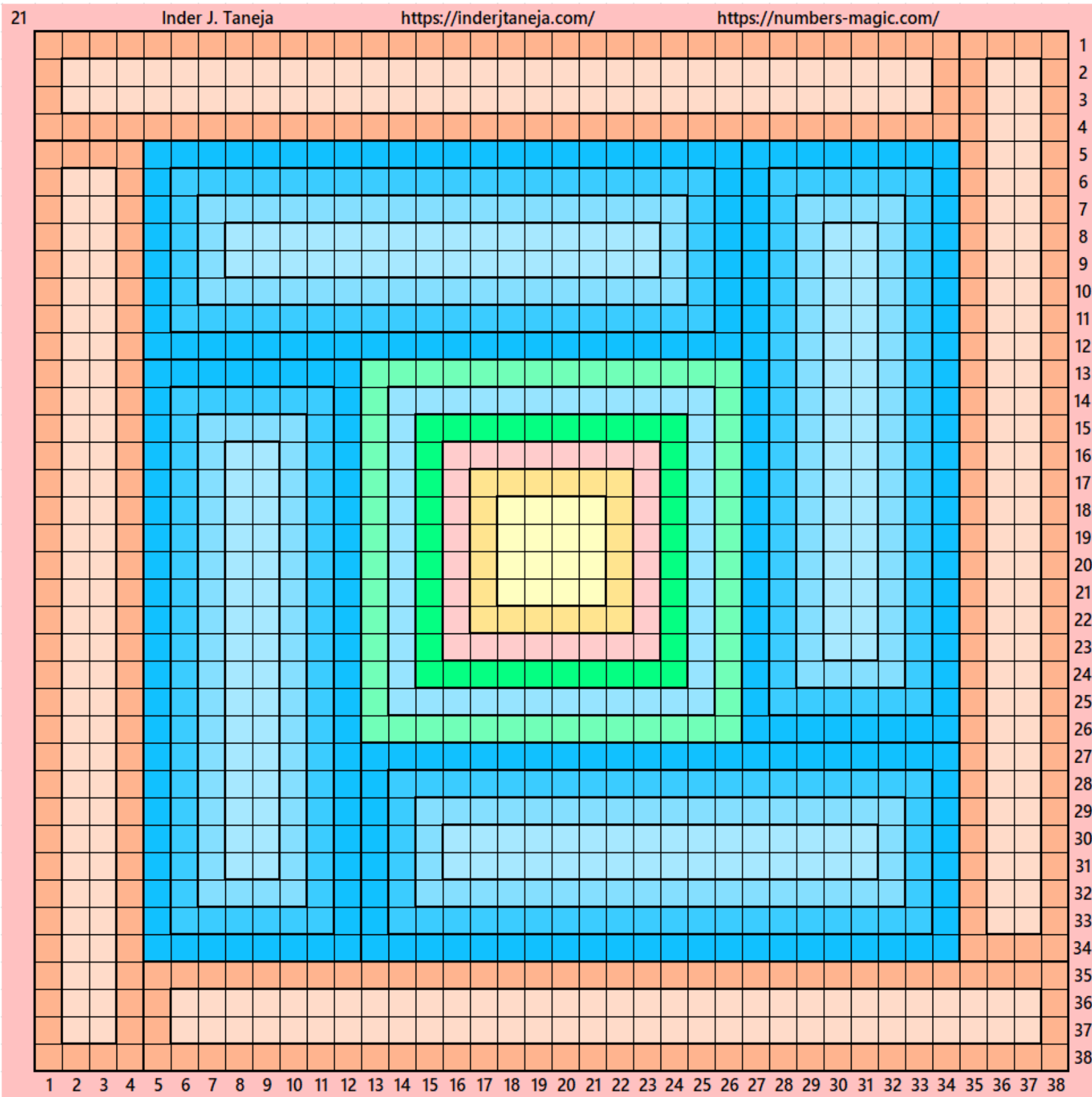


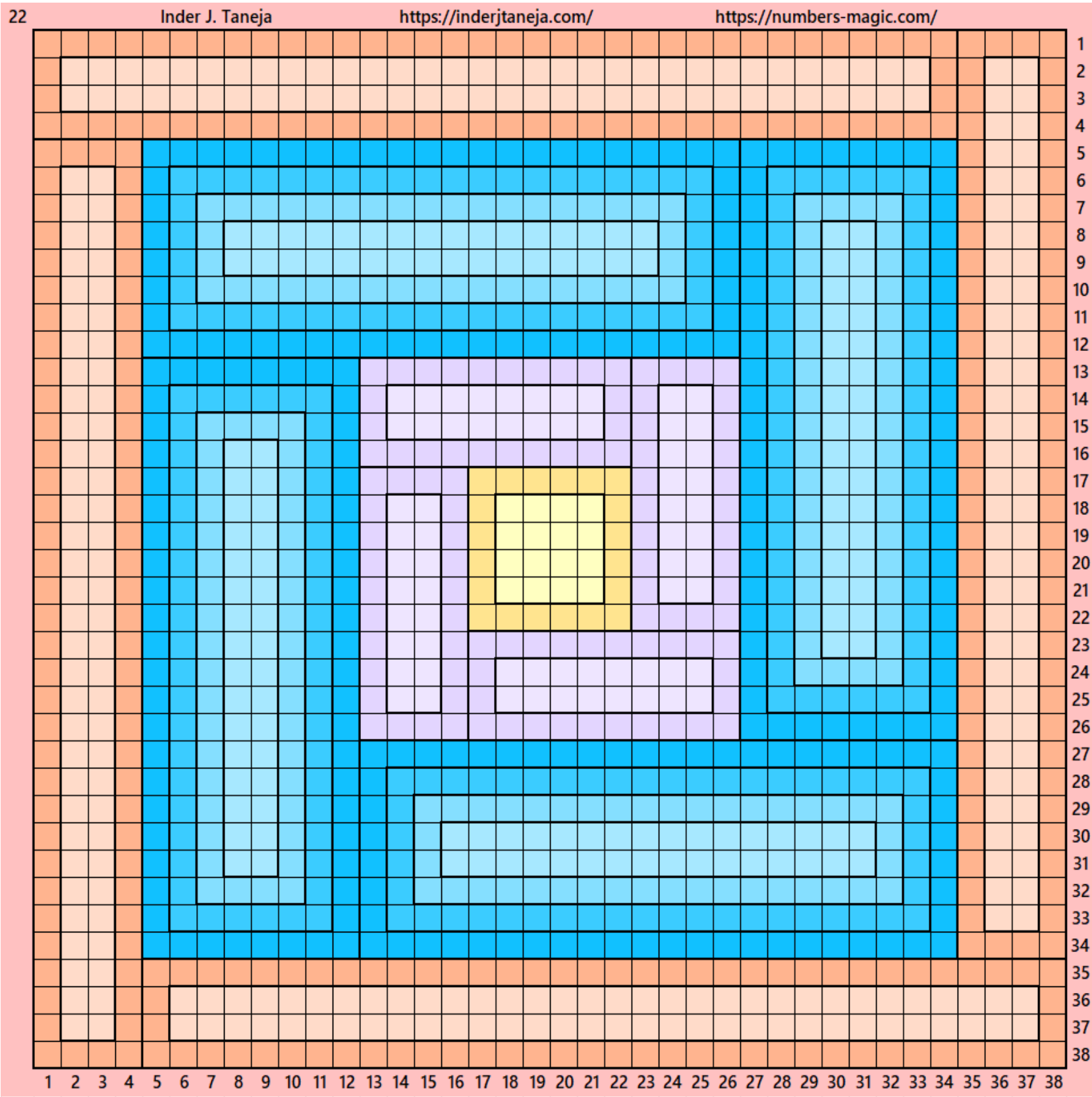


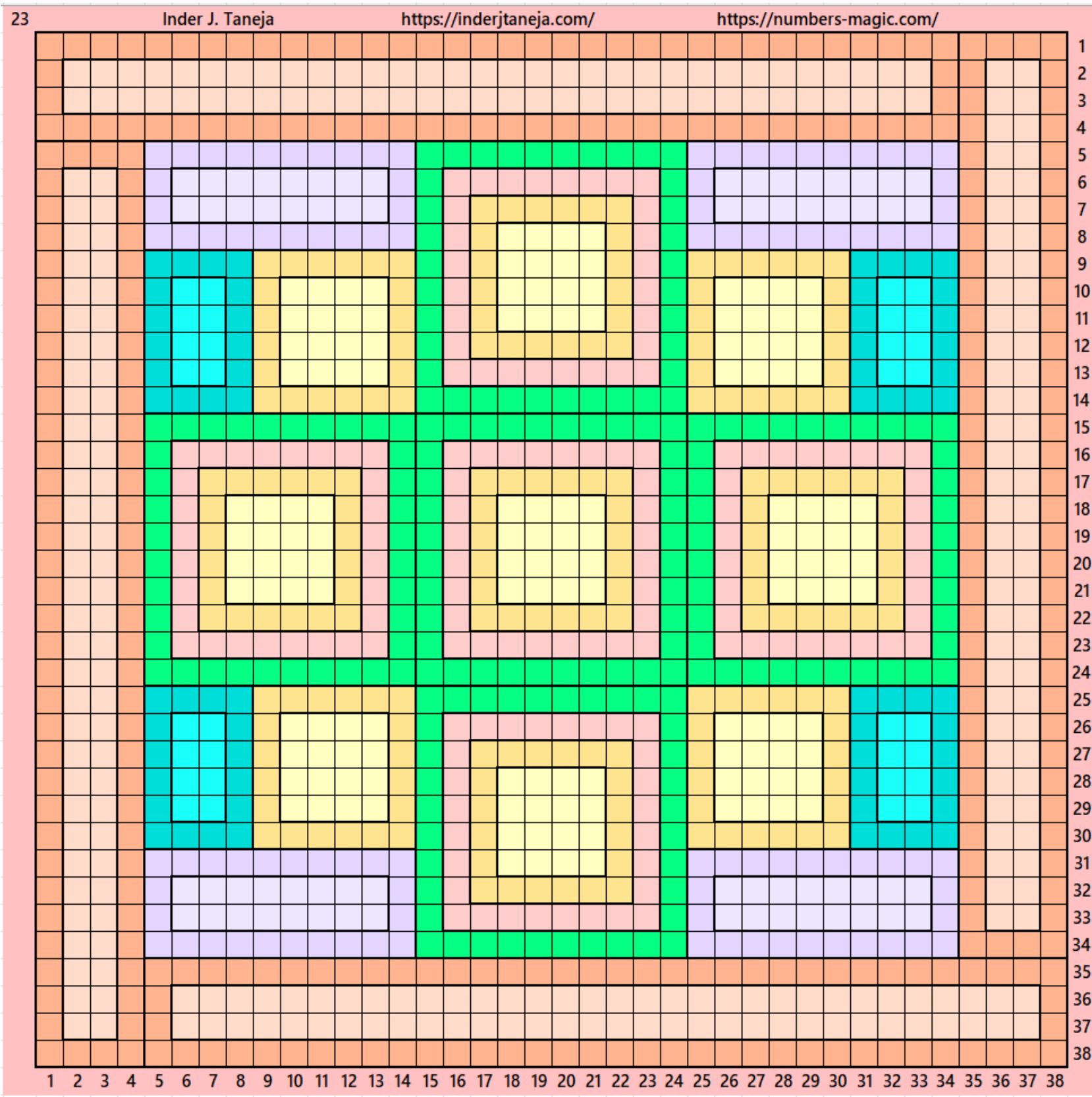


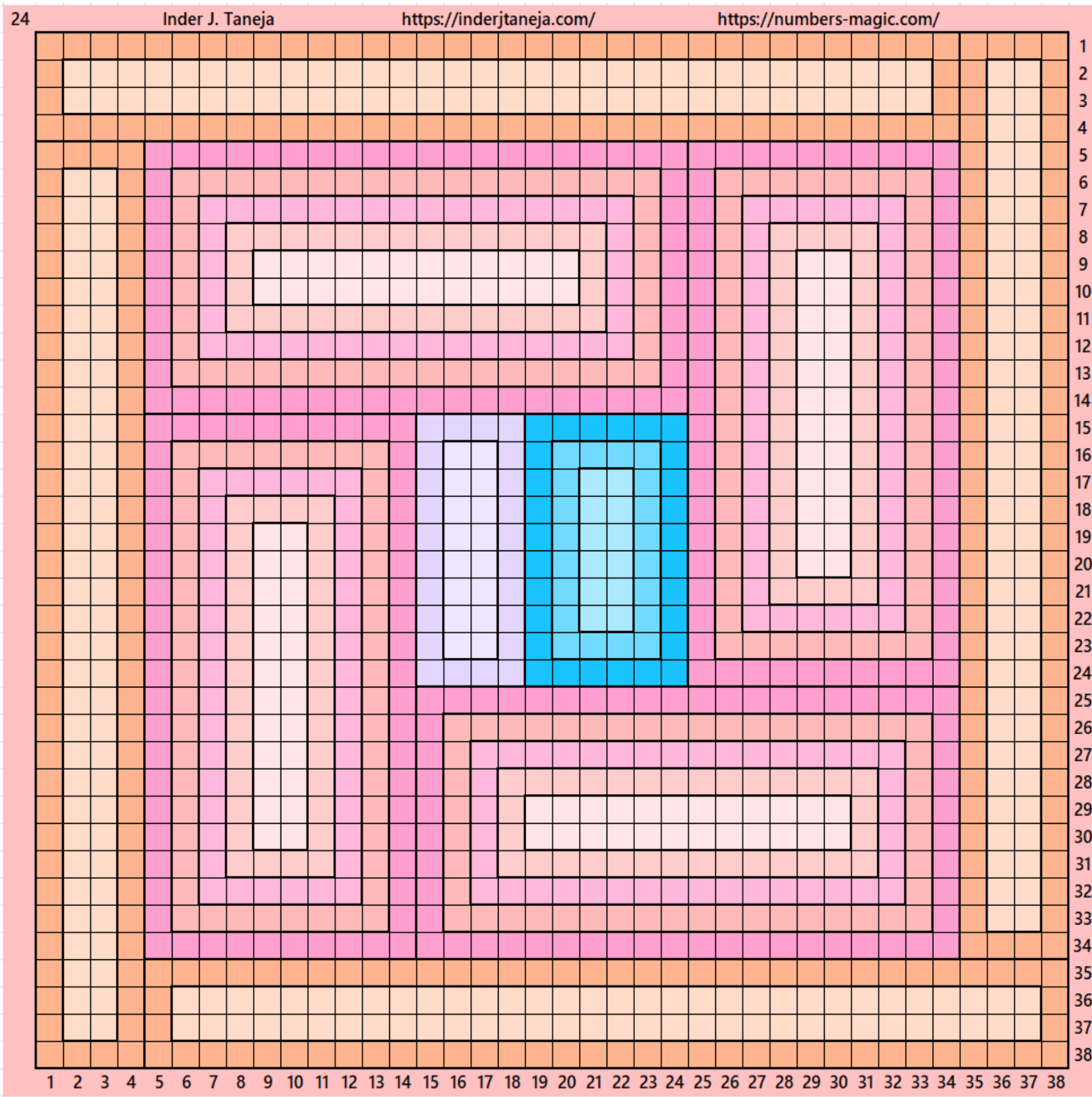


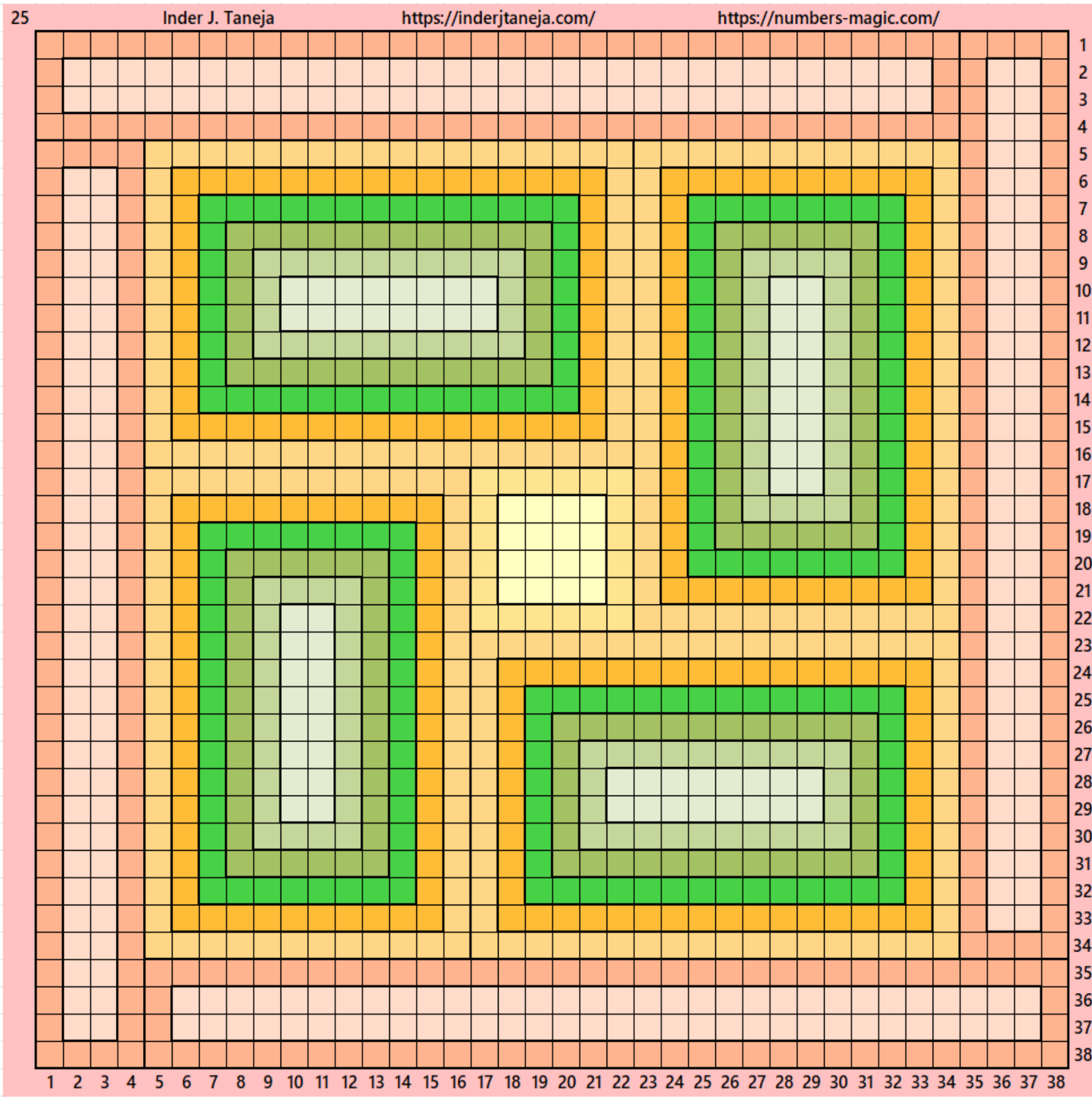


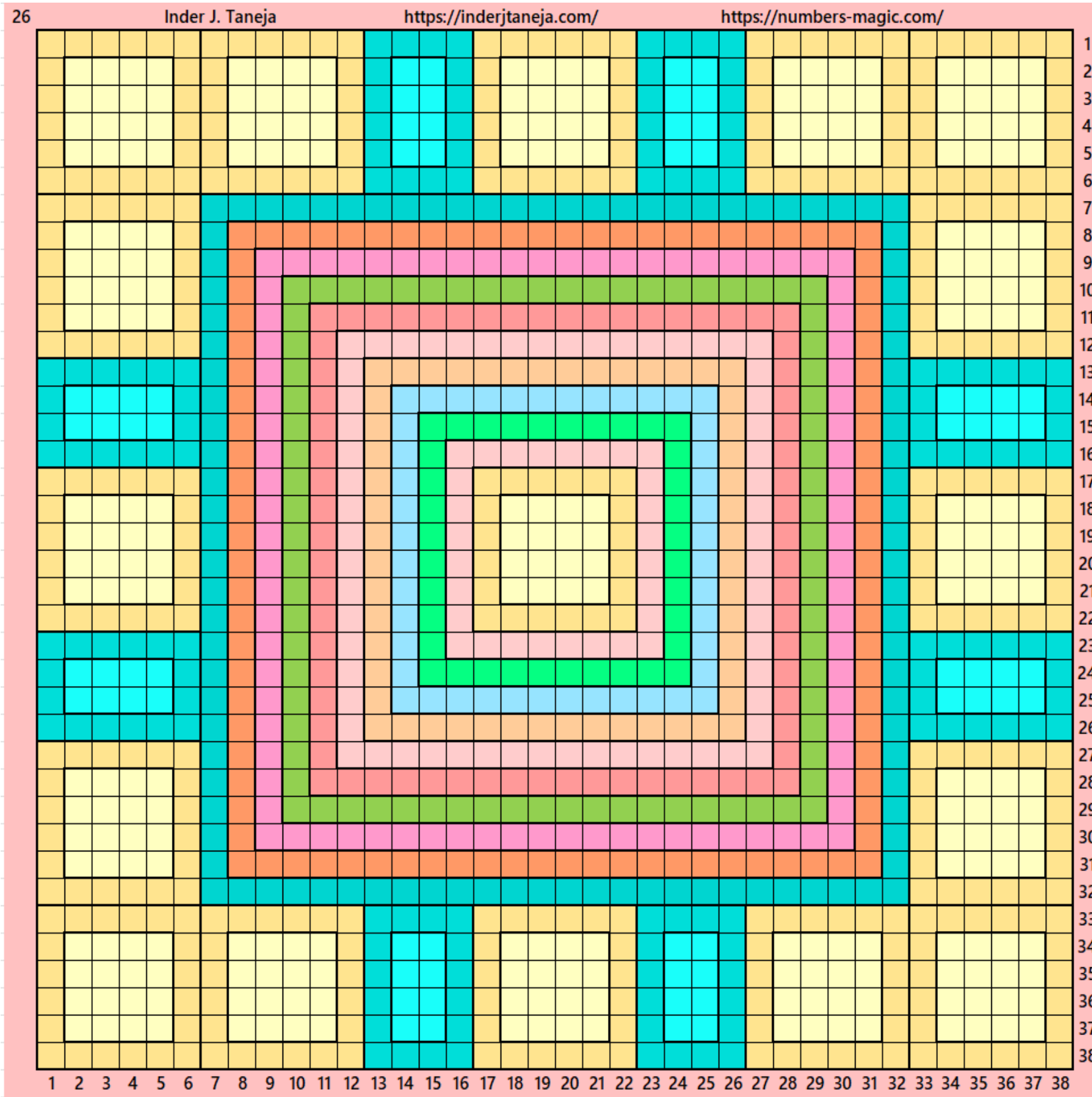




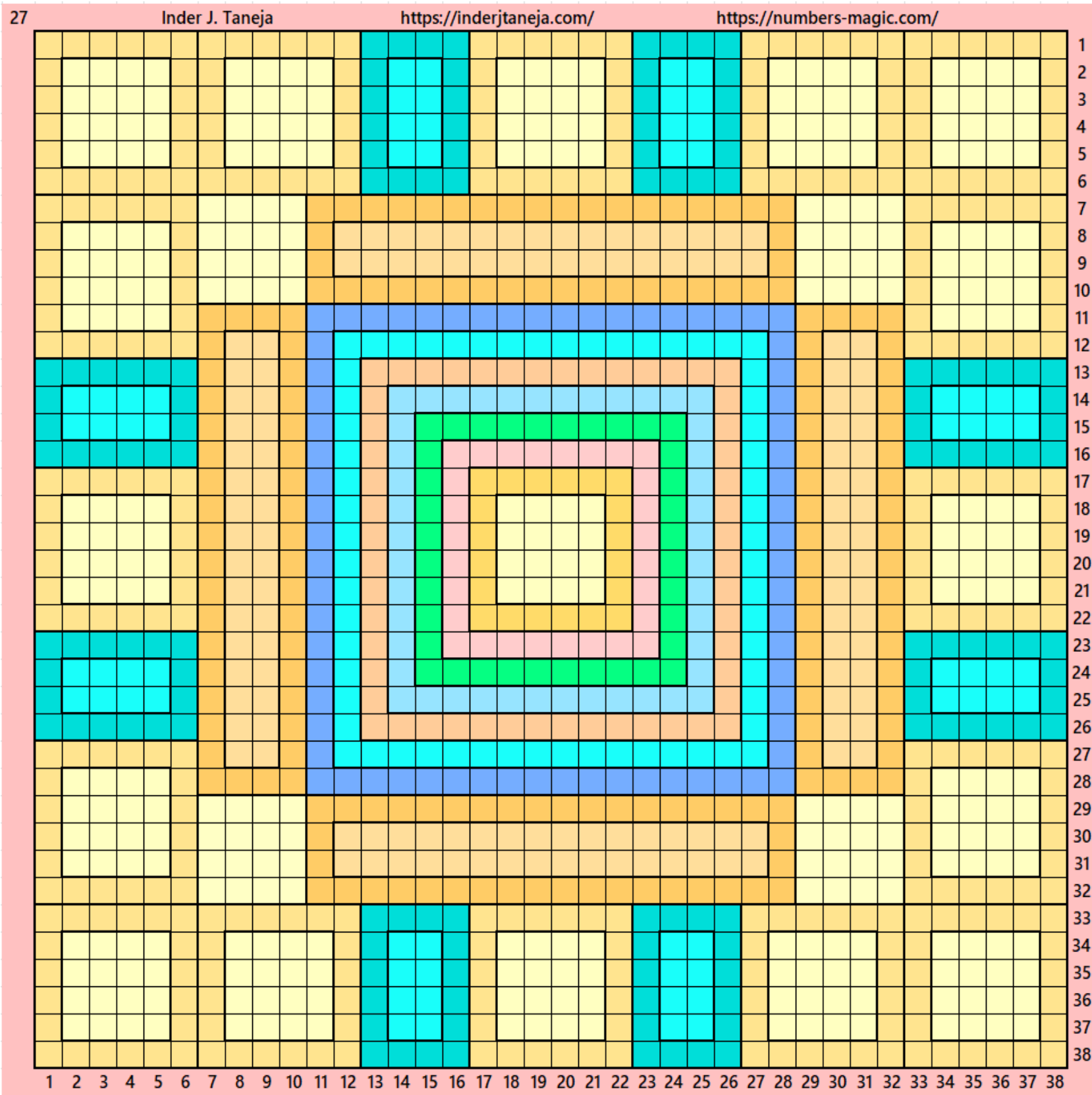


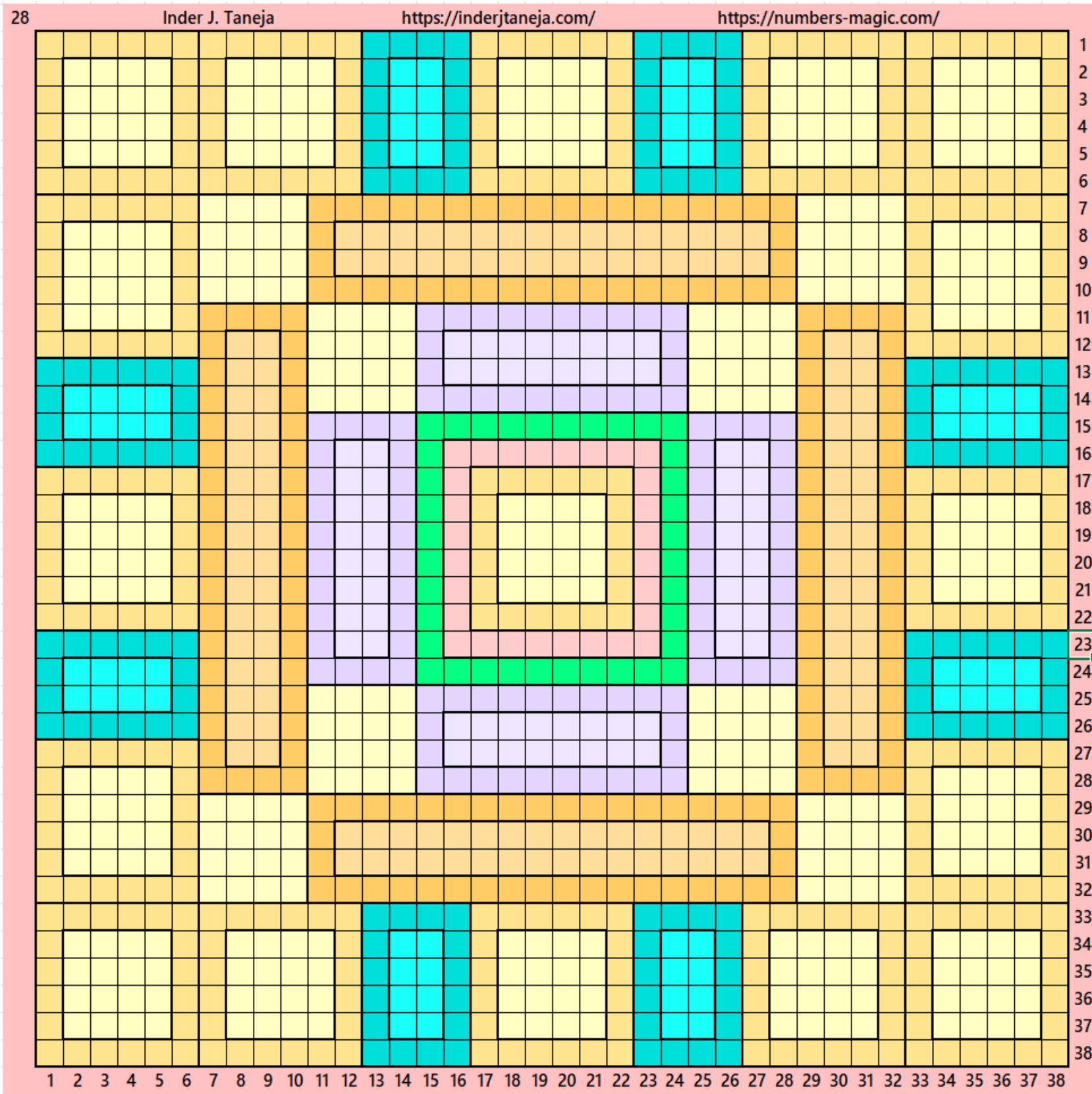


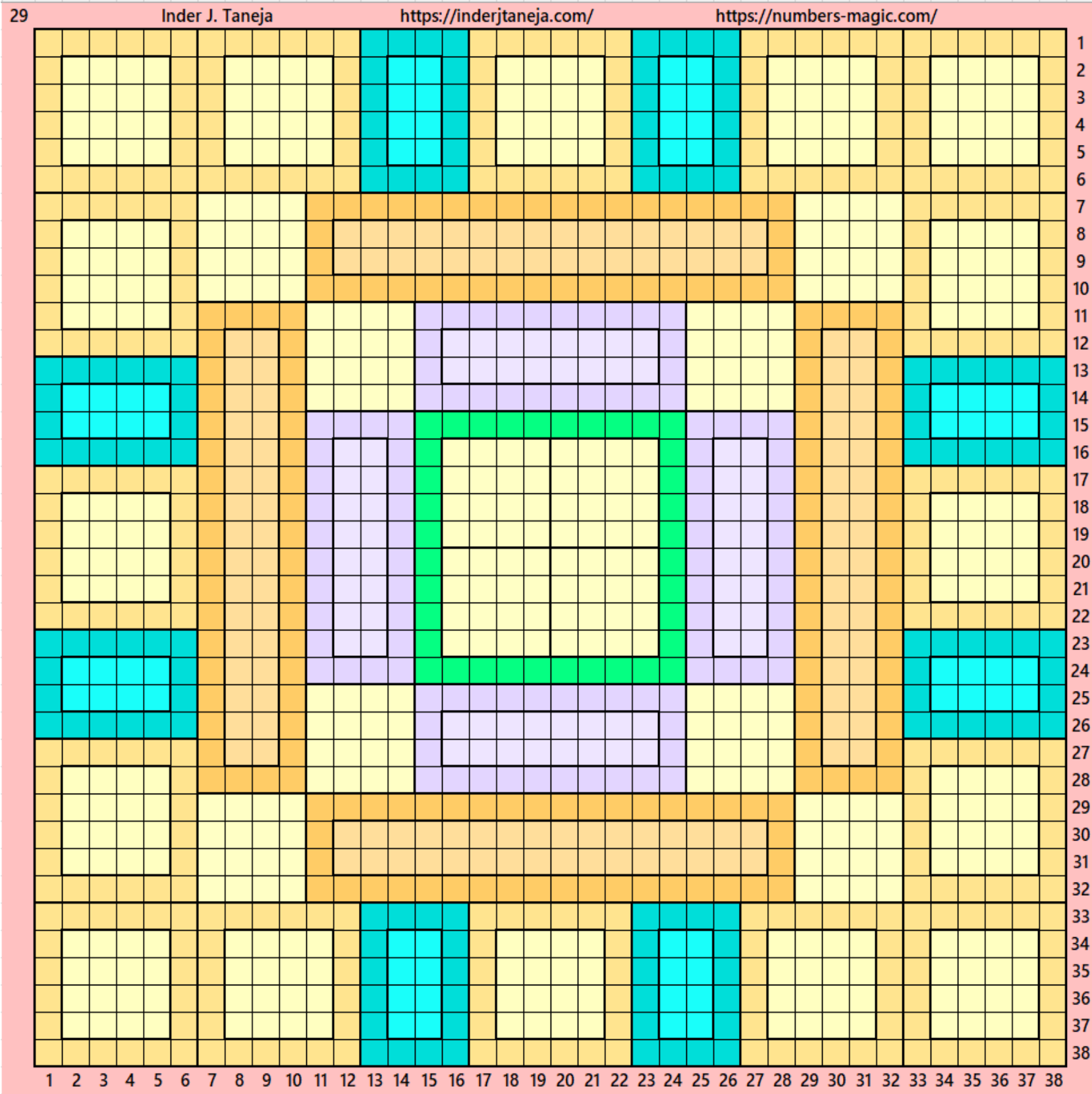


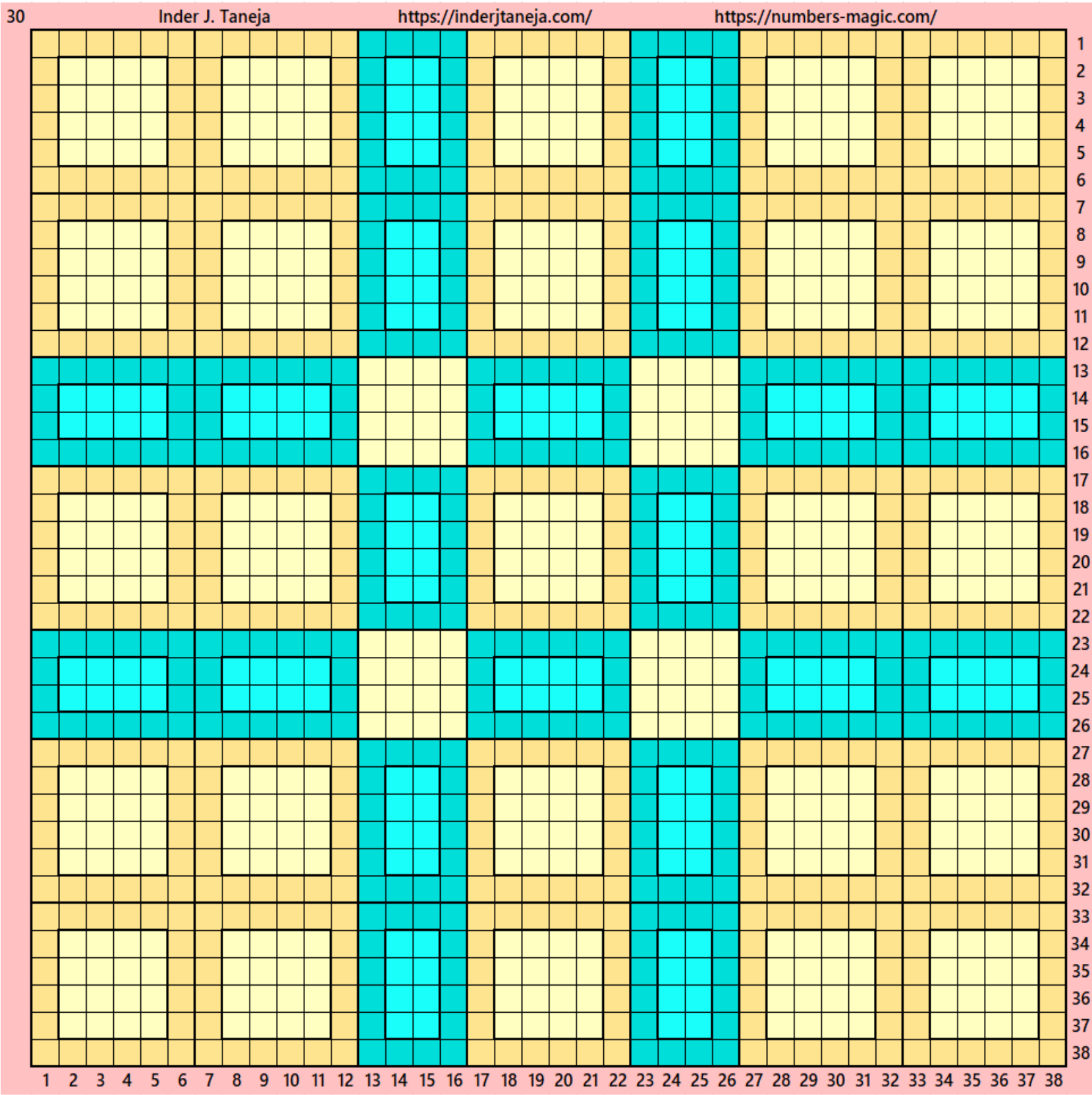


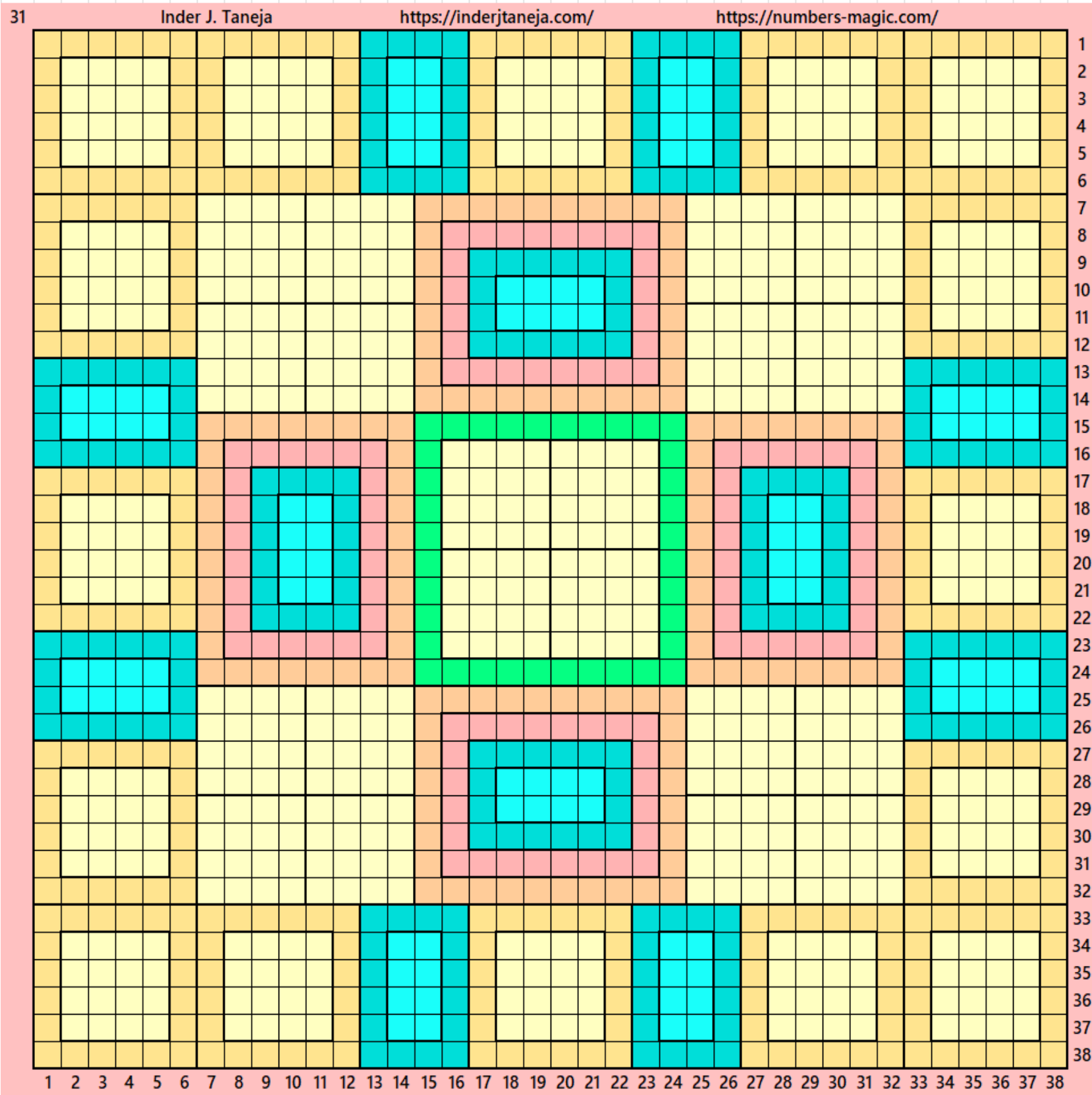
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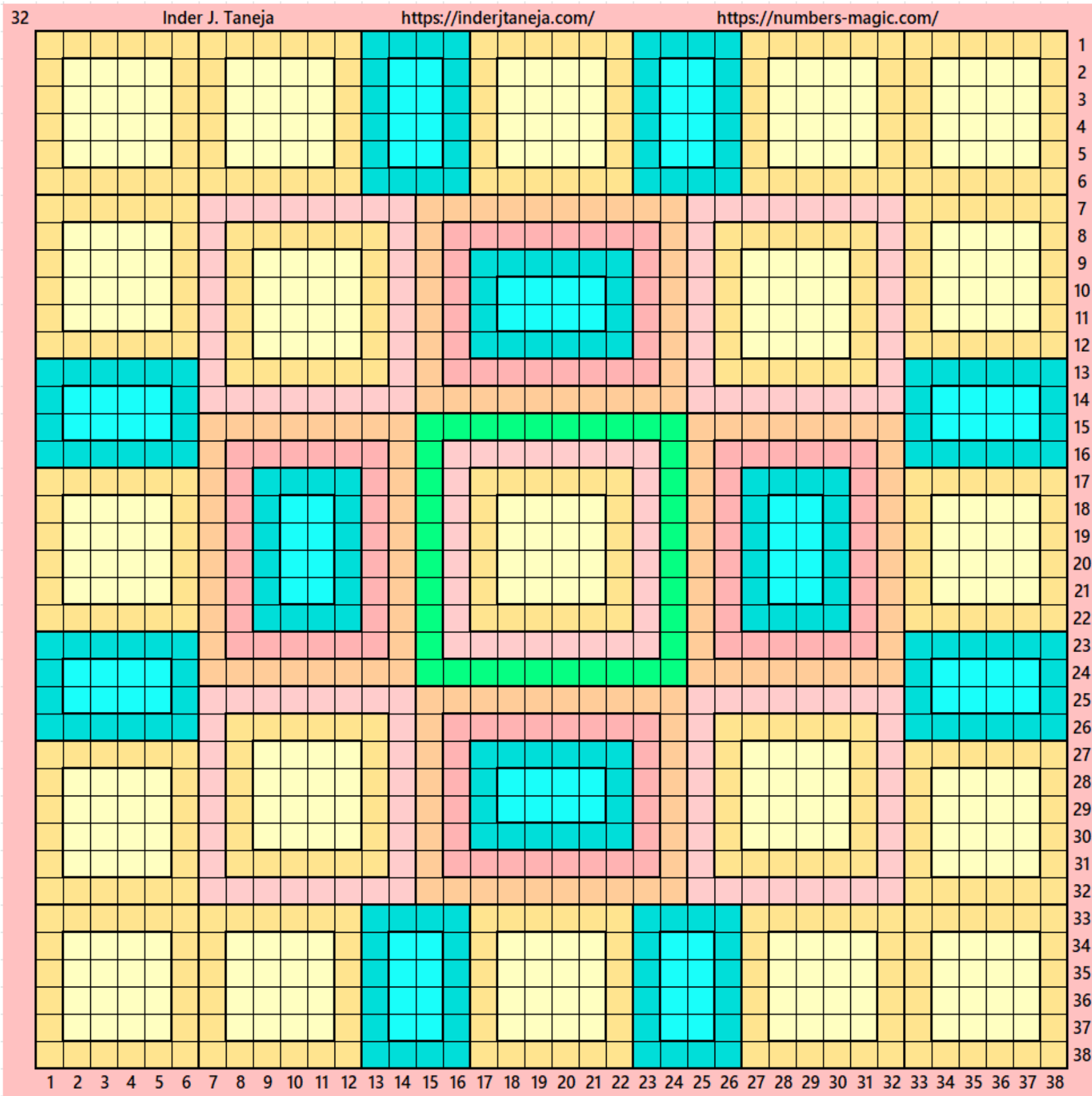


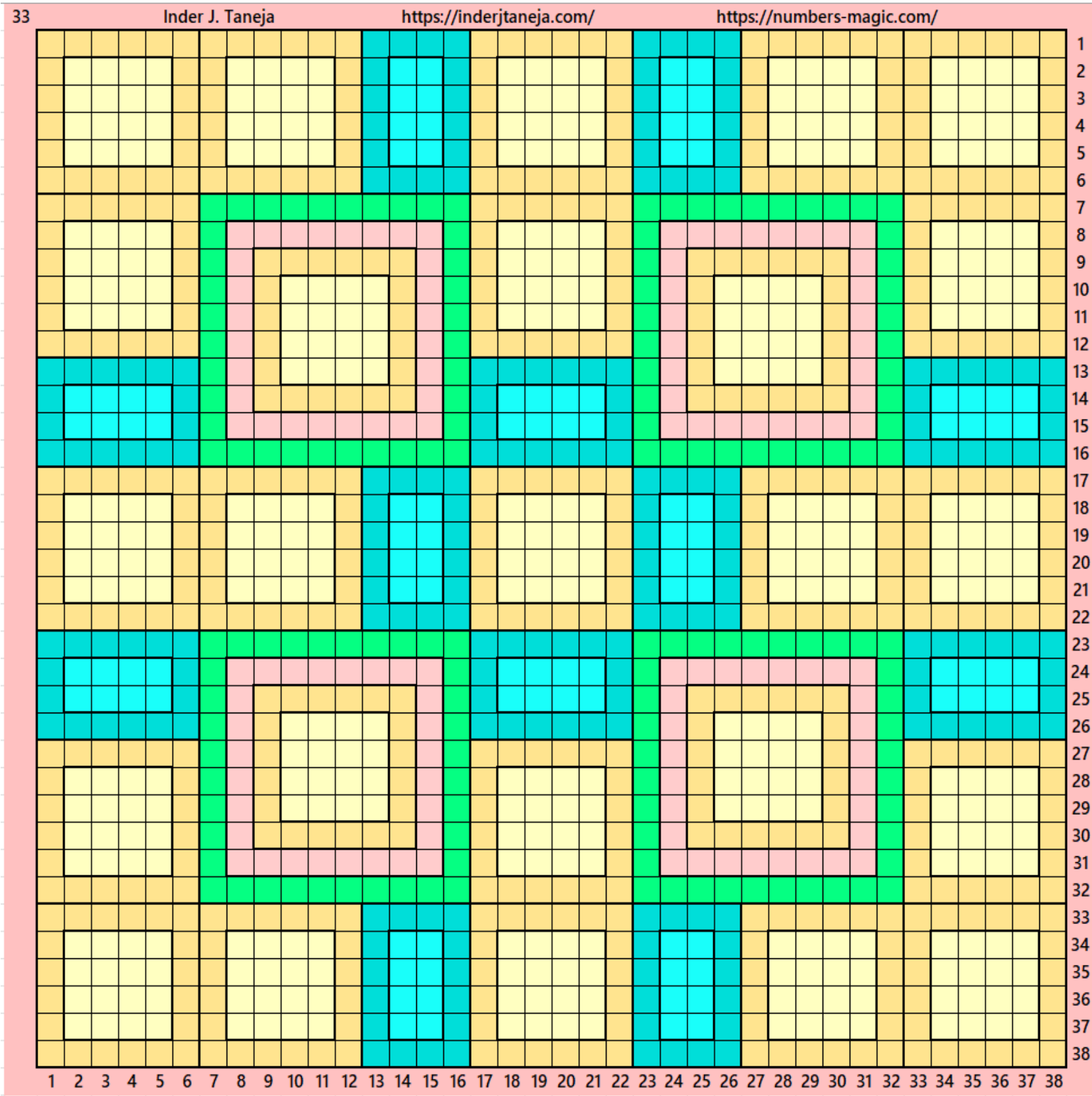


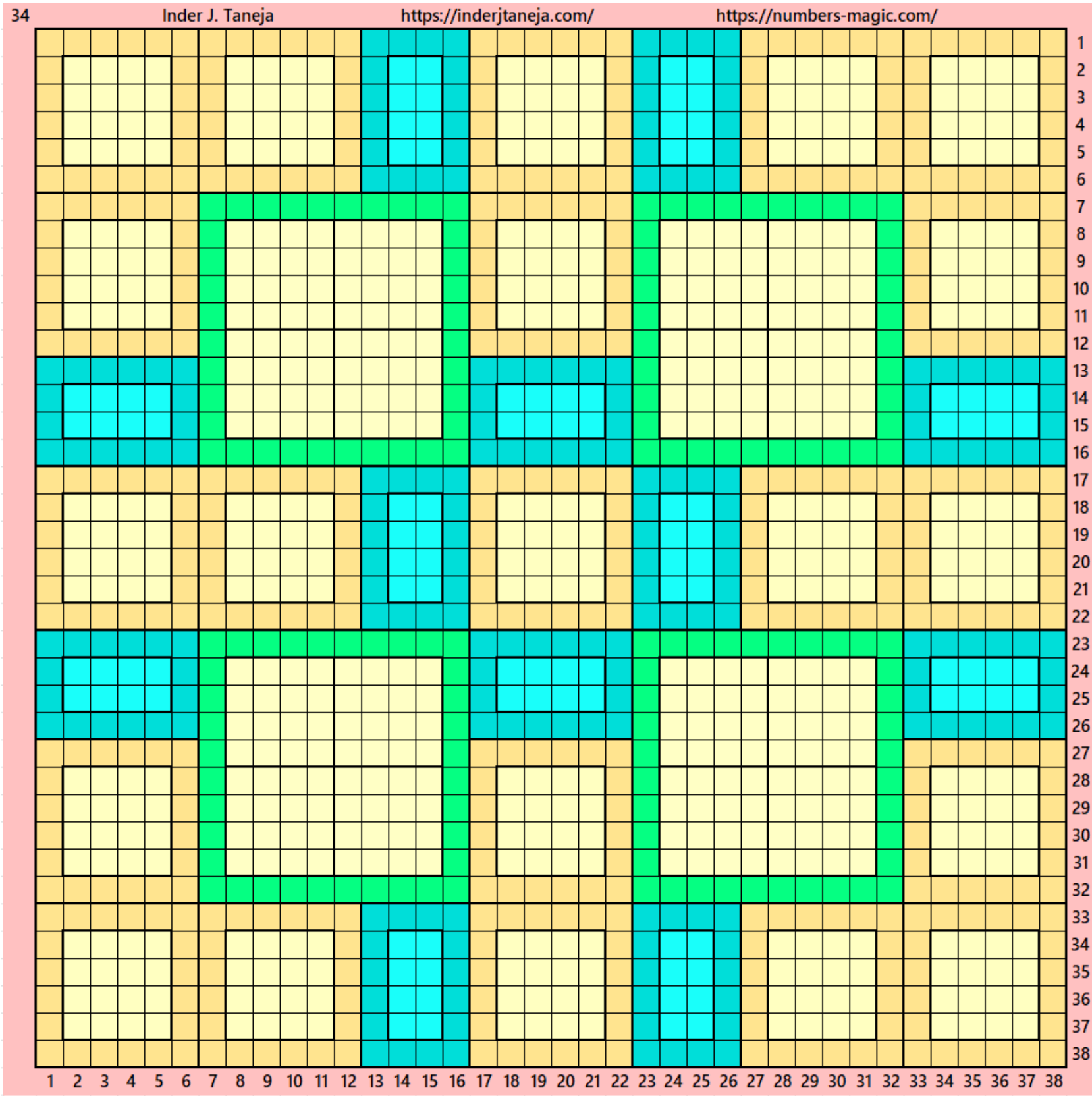


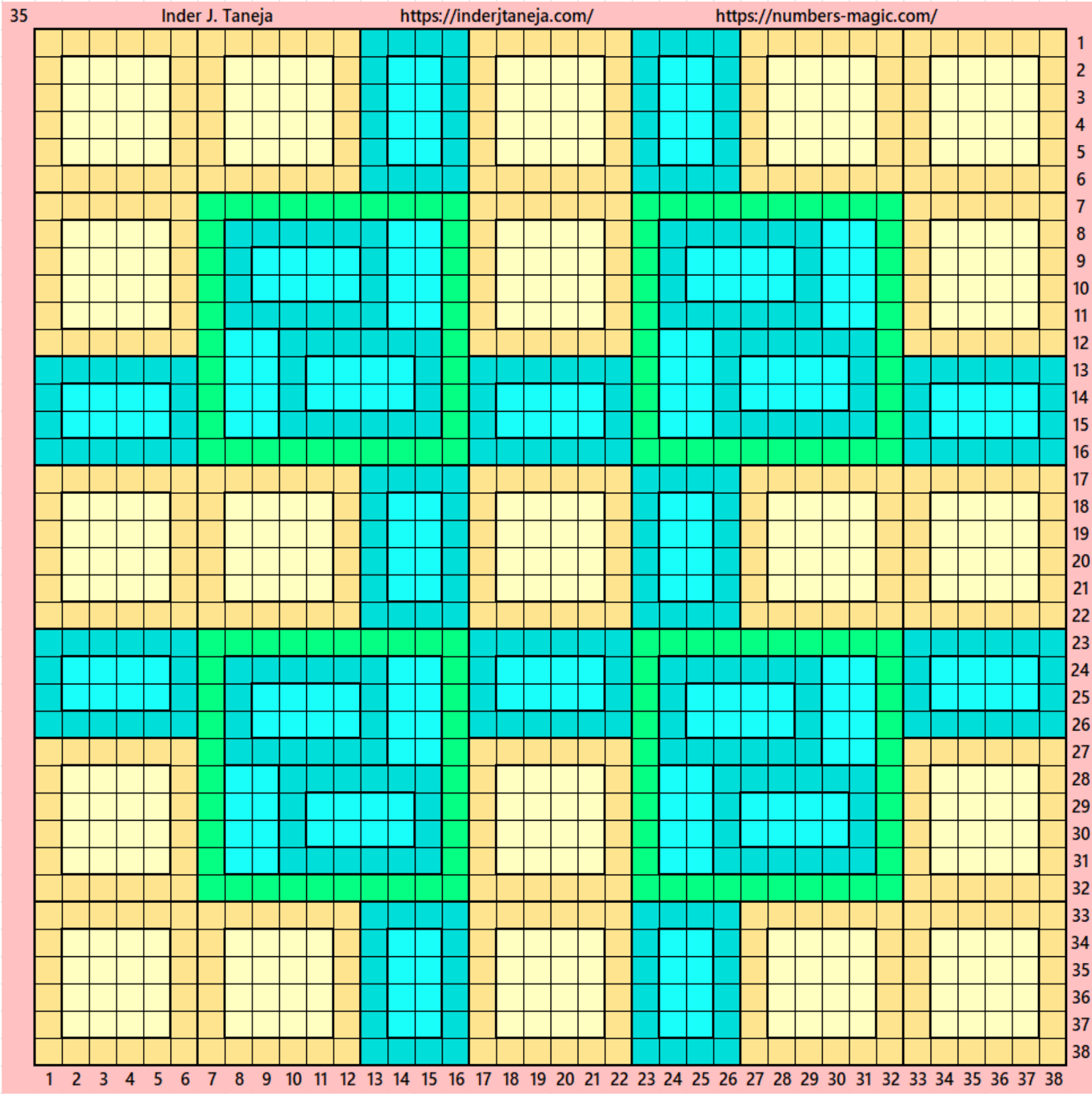


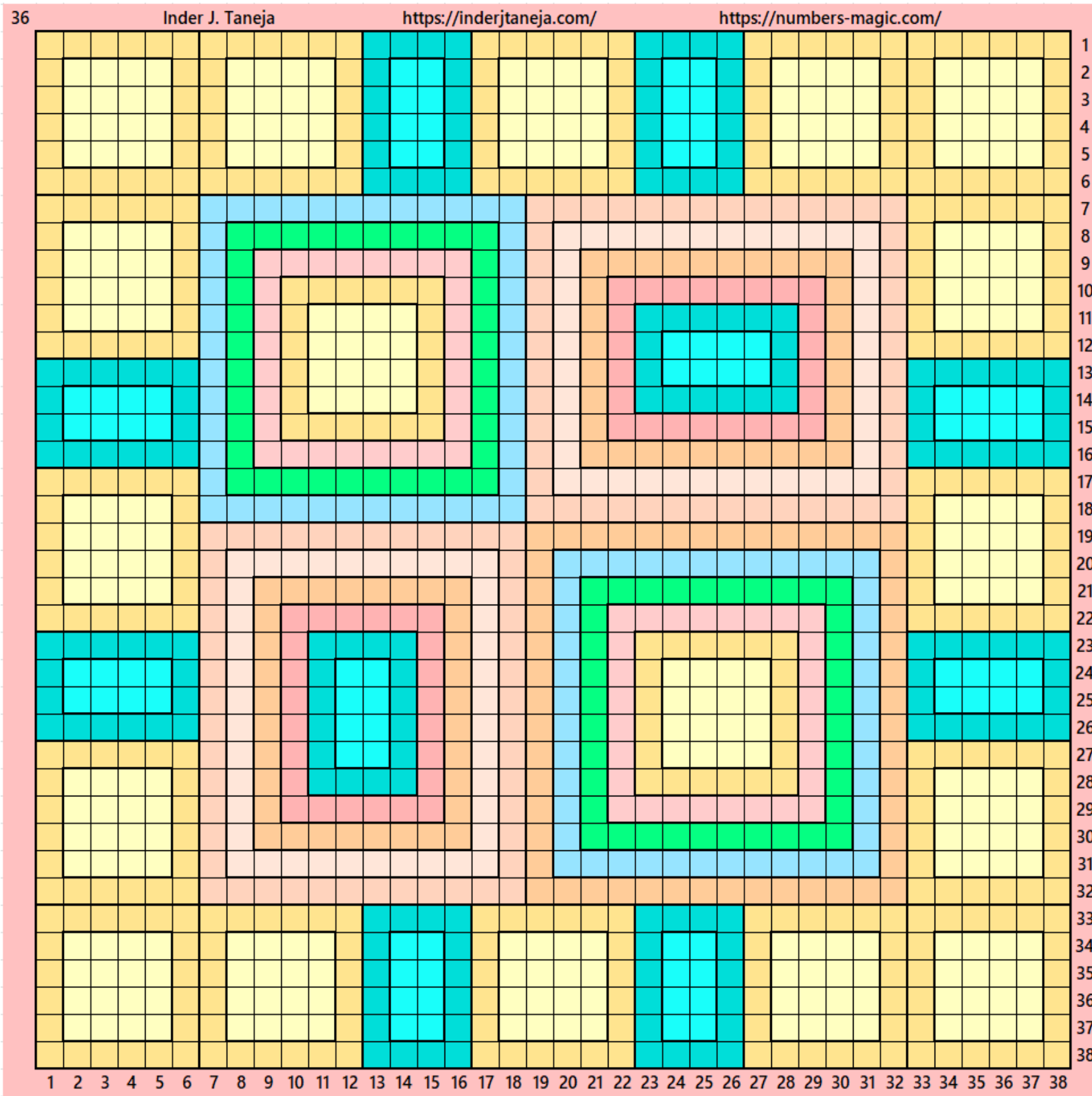




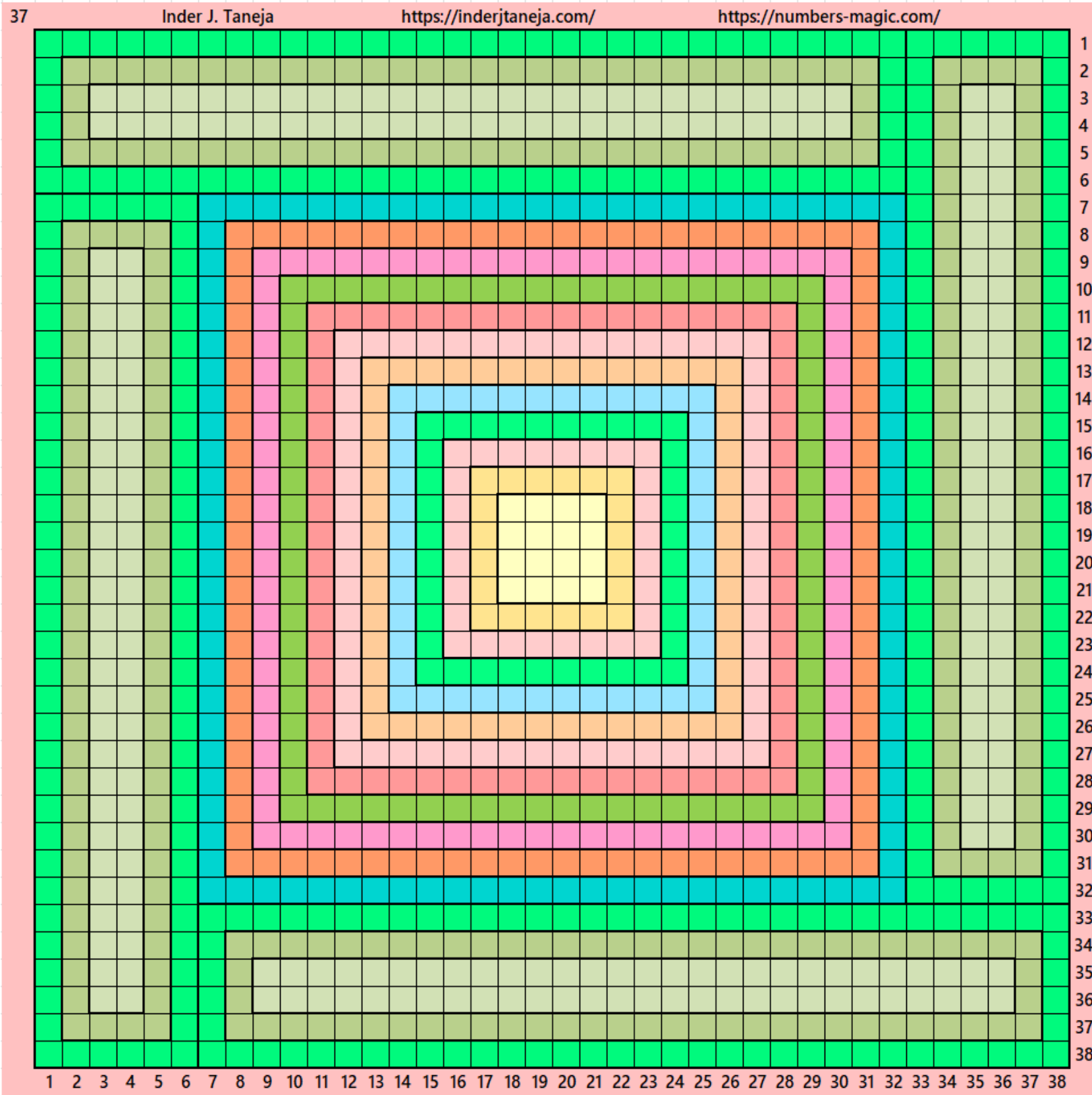


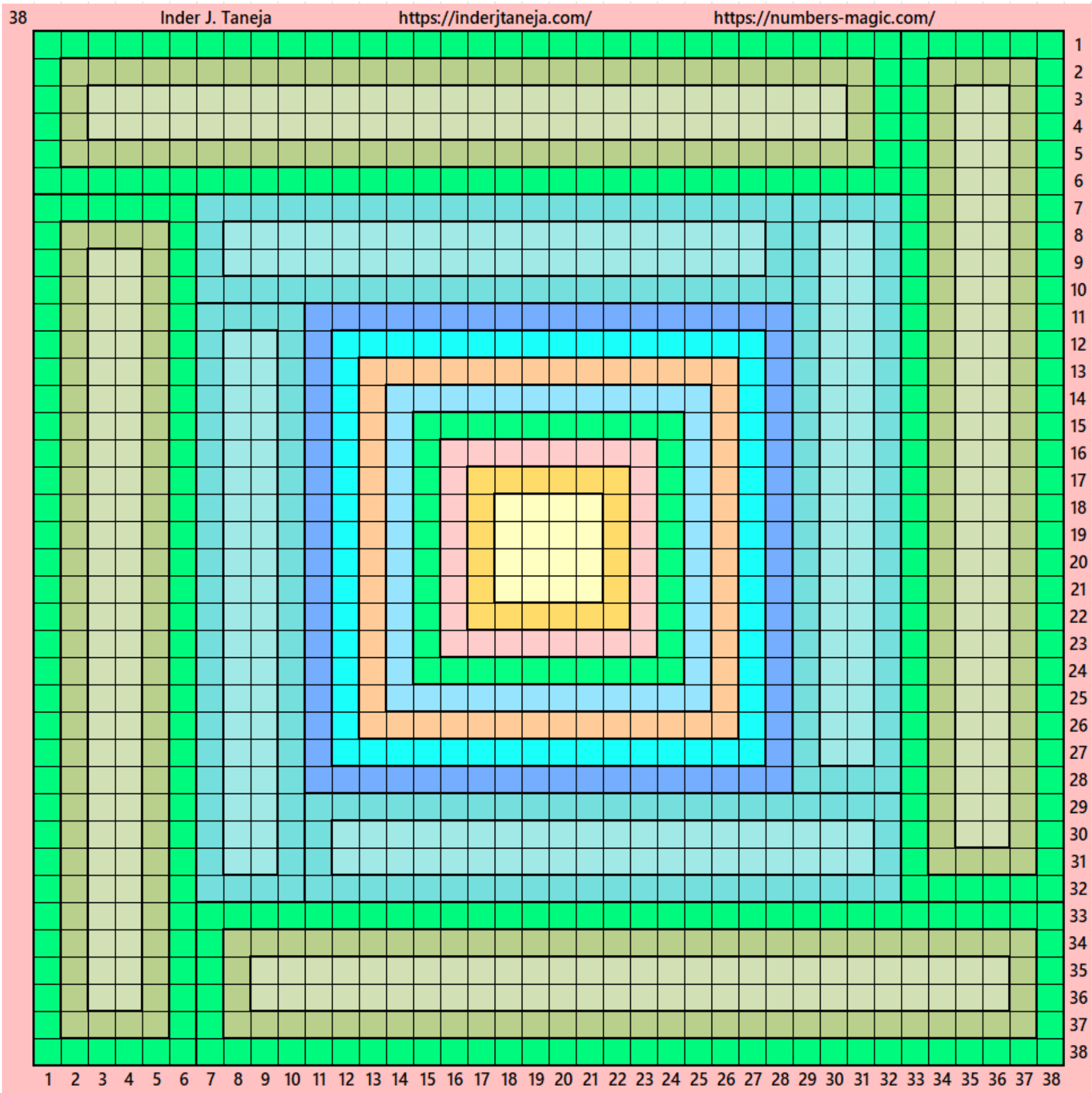




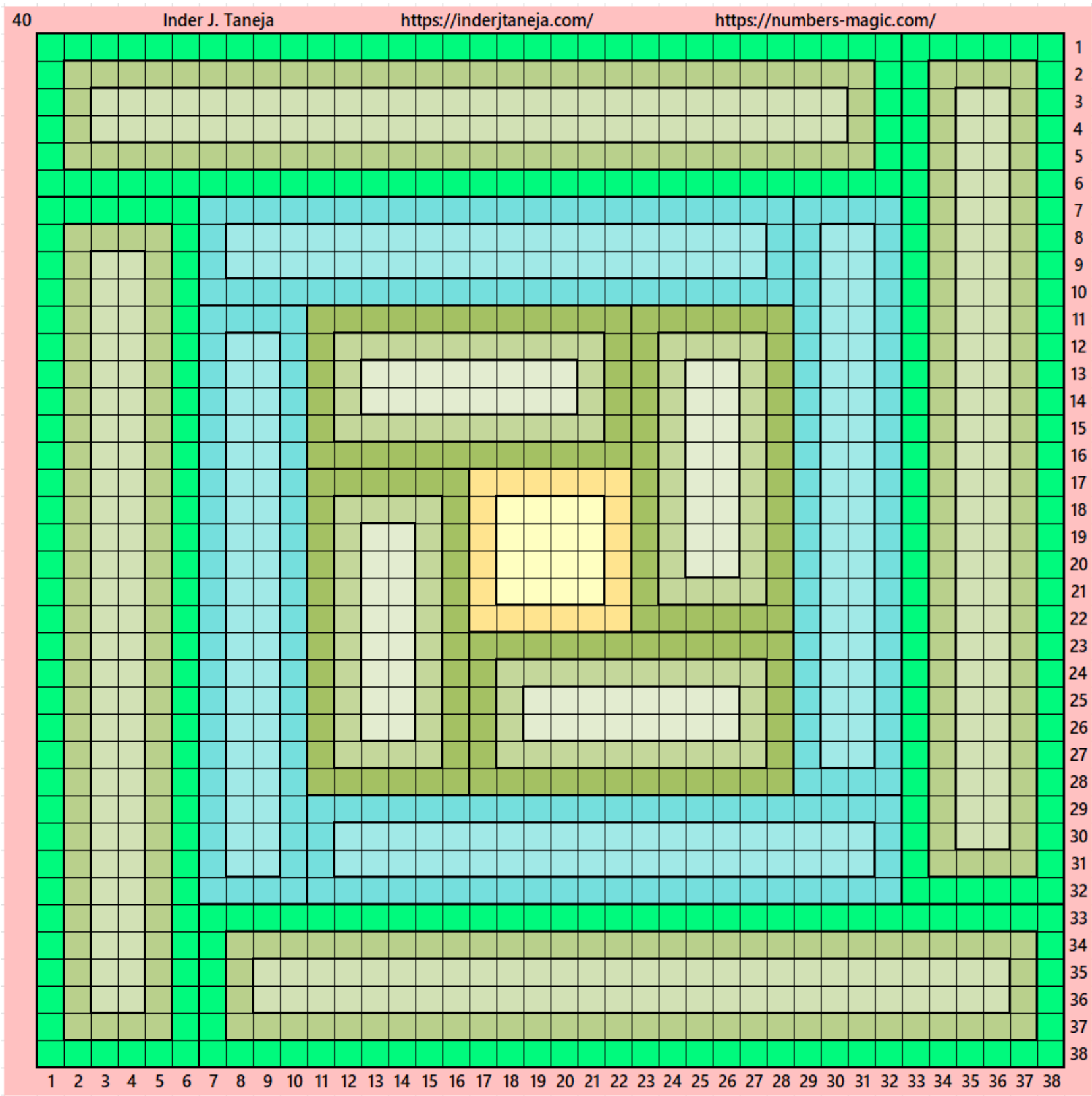


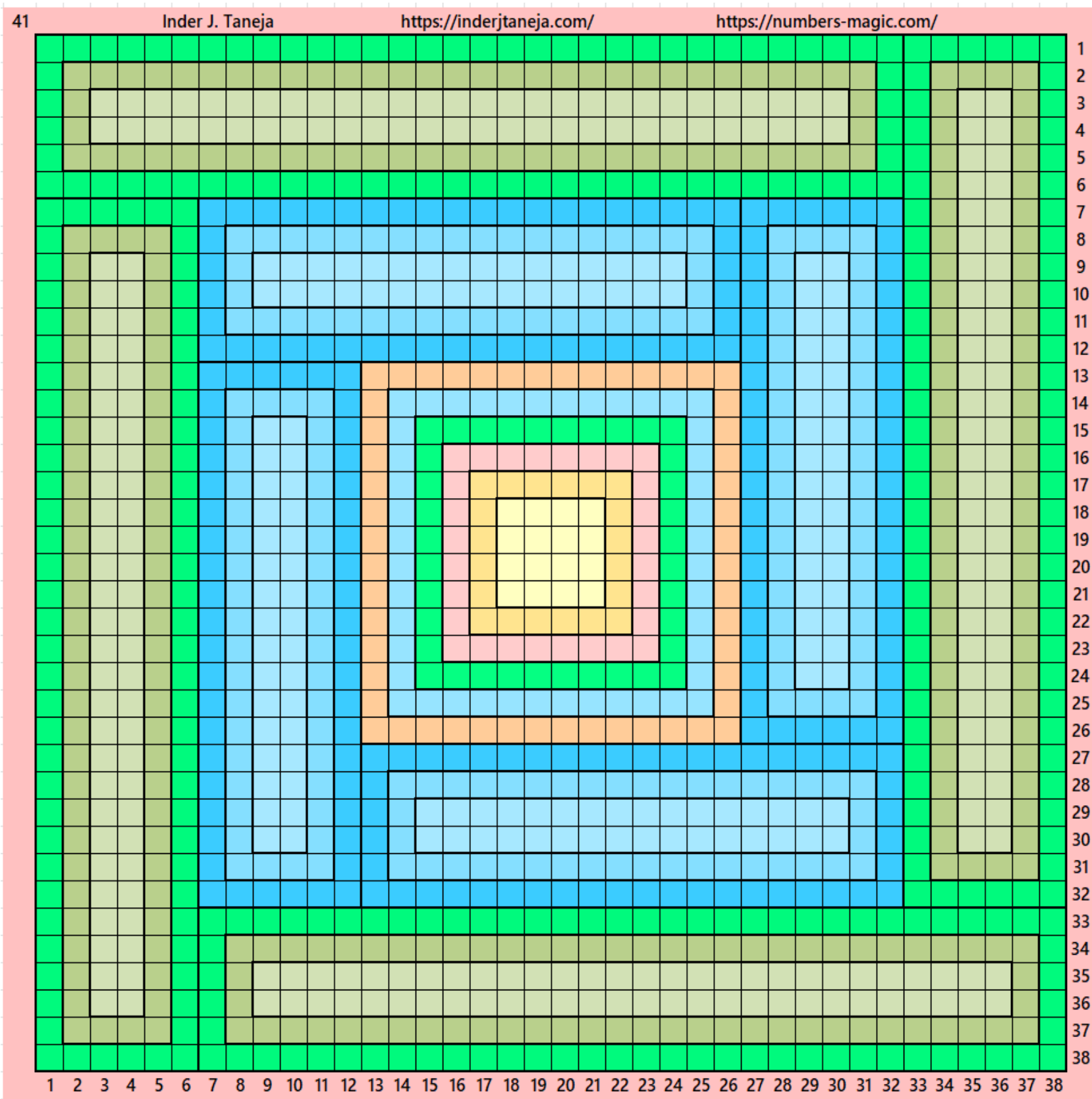
2.4 Closed Border of Order 6

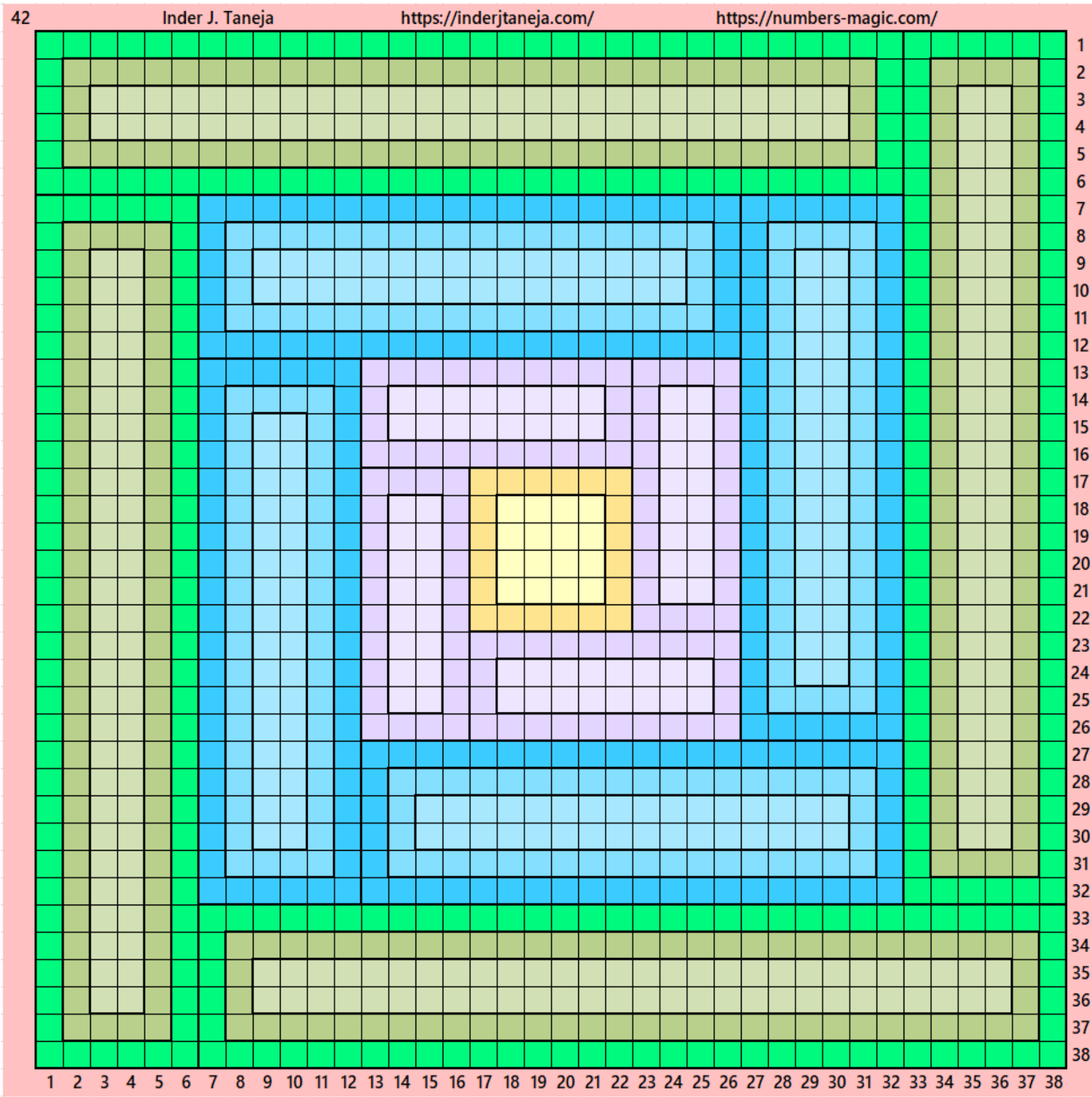


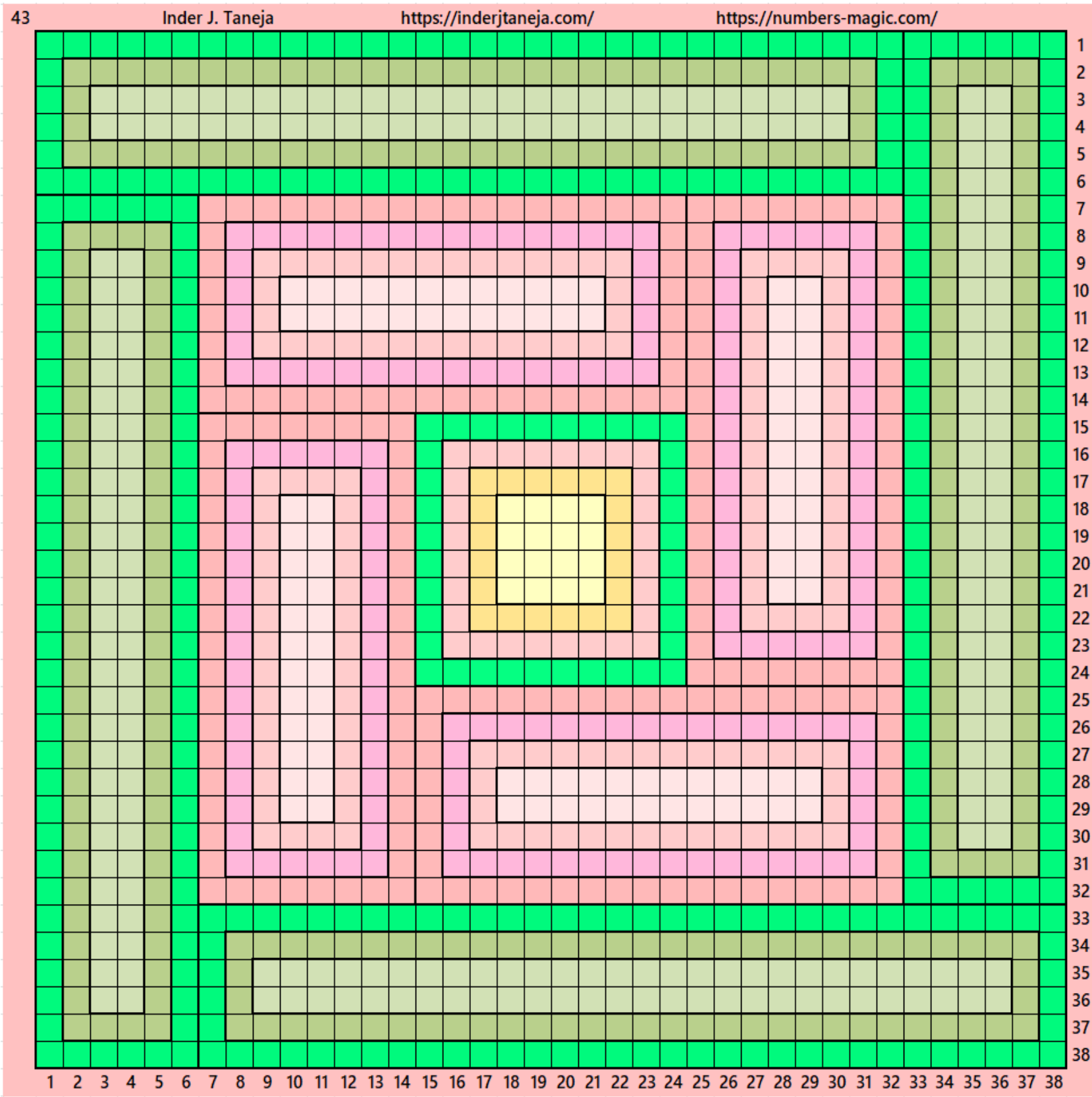


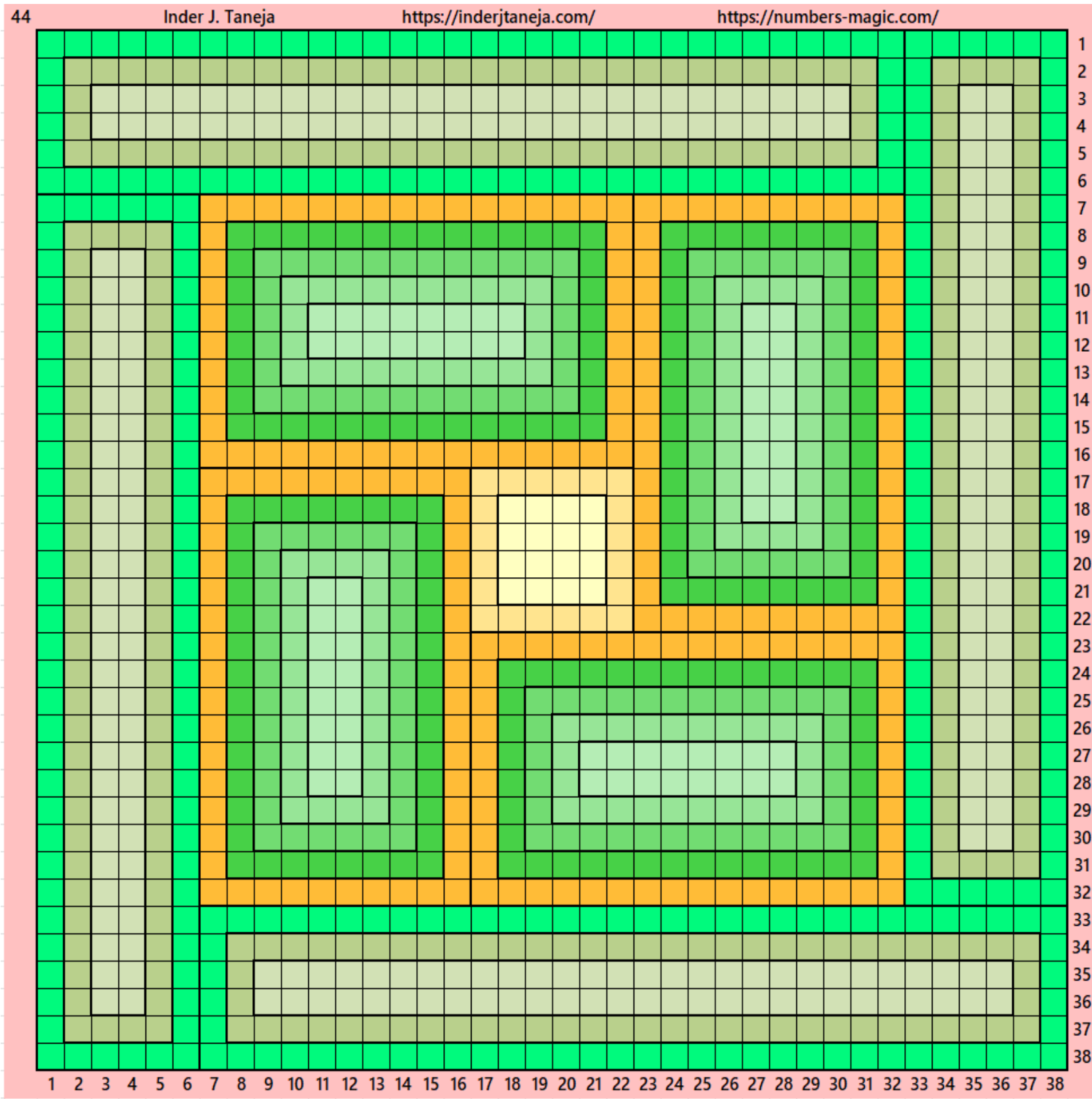




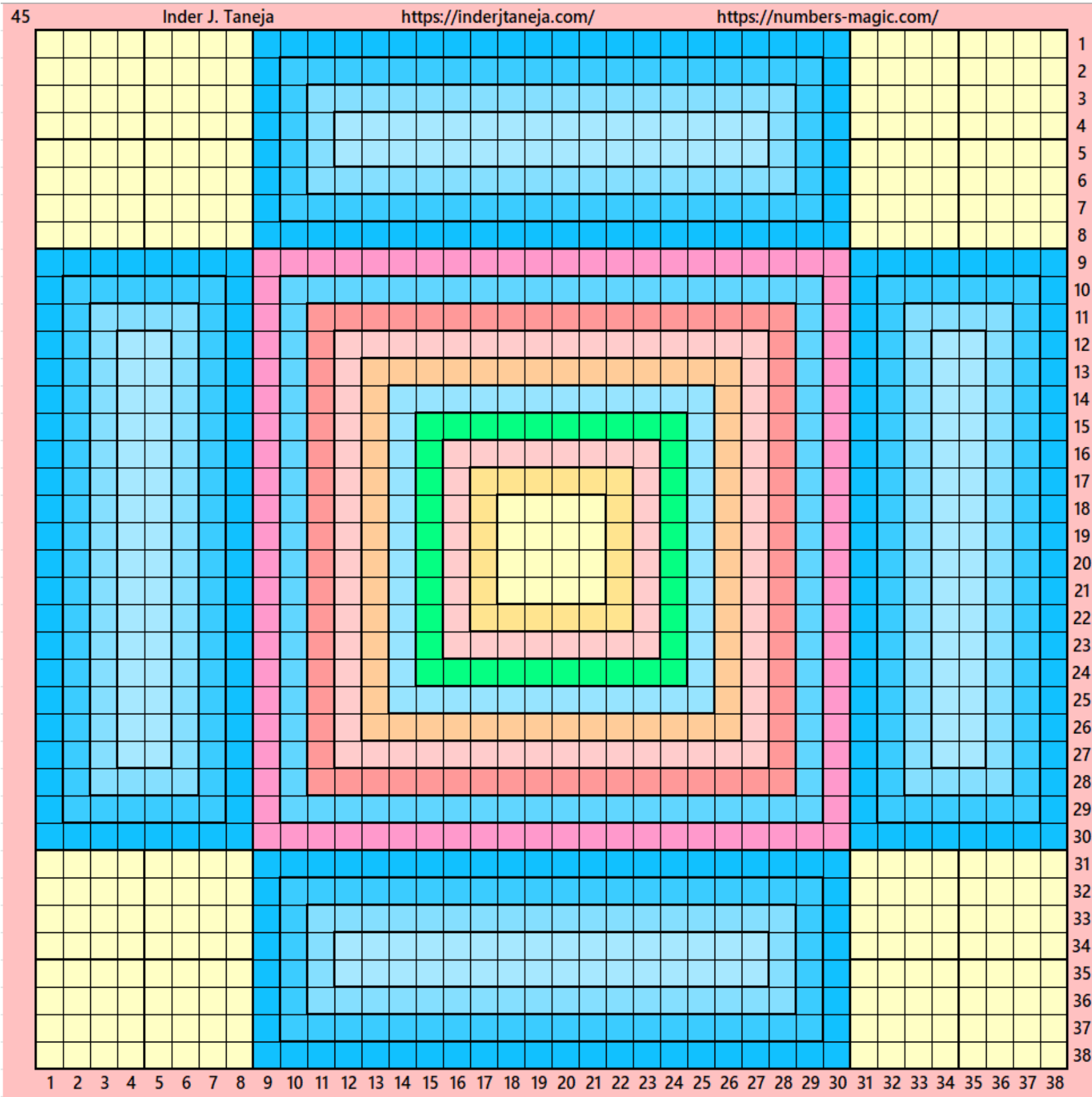


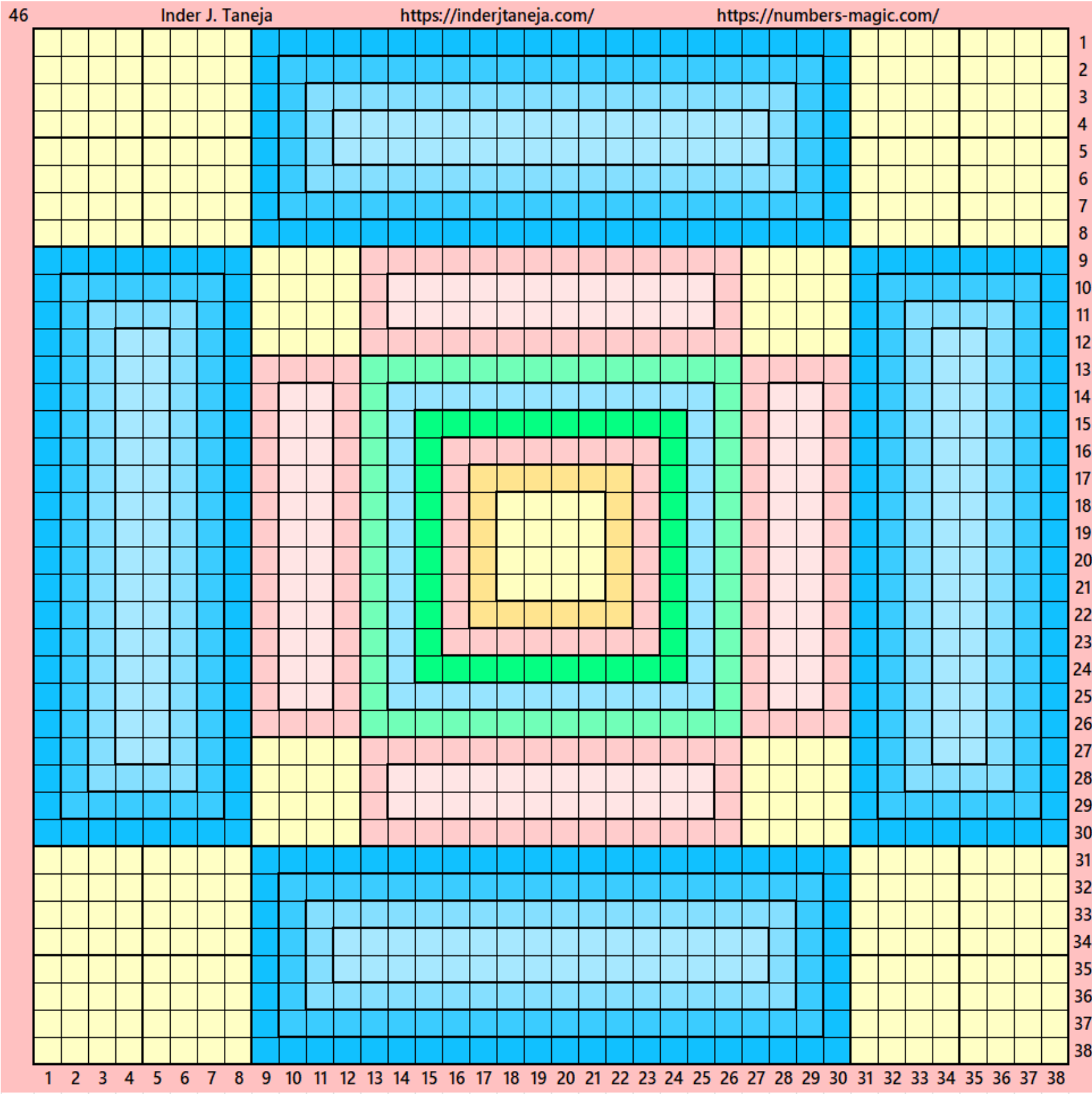


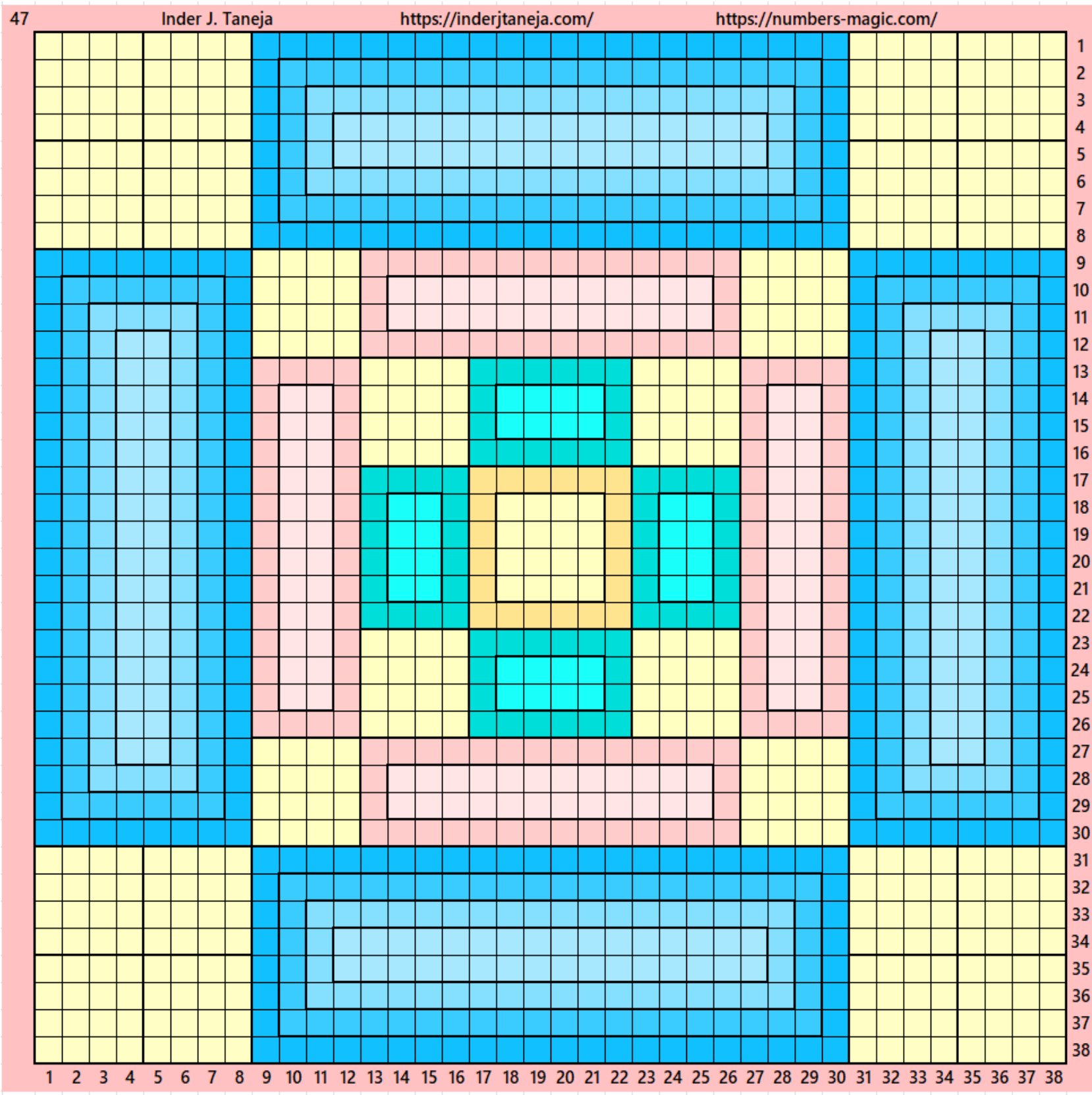


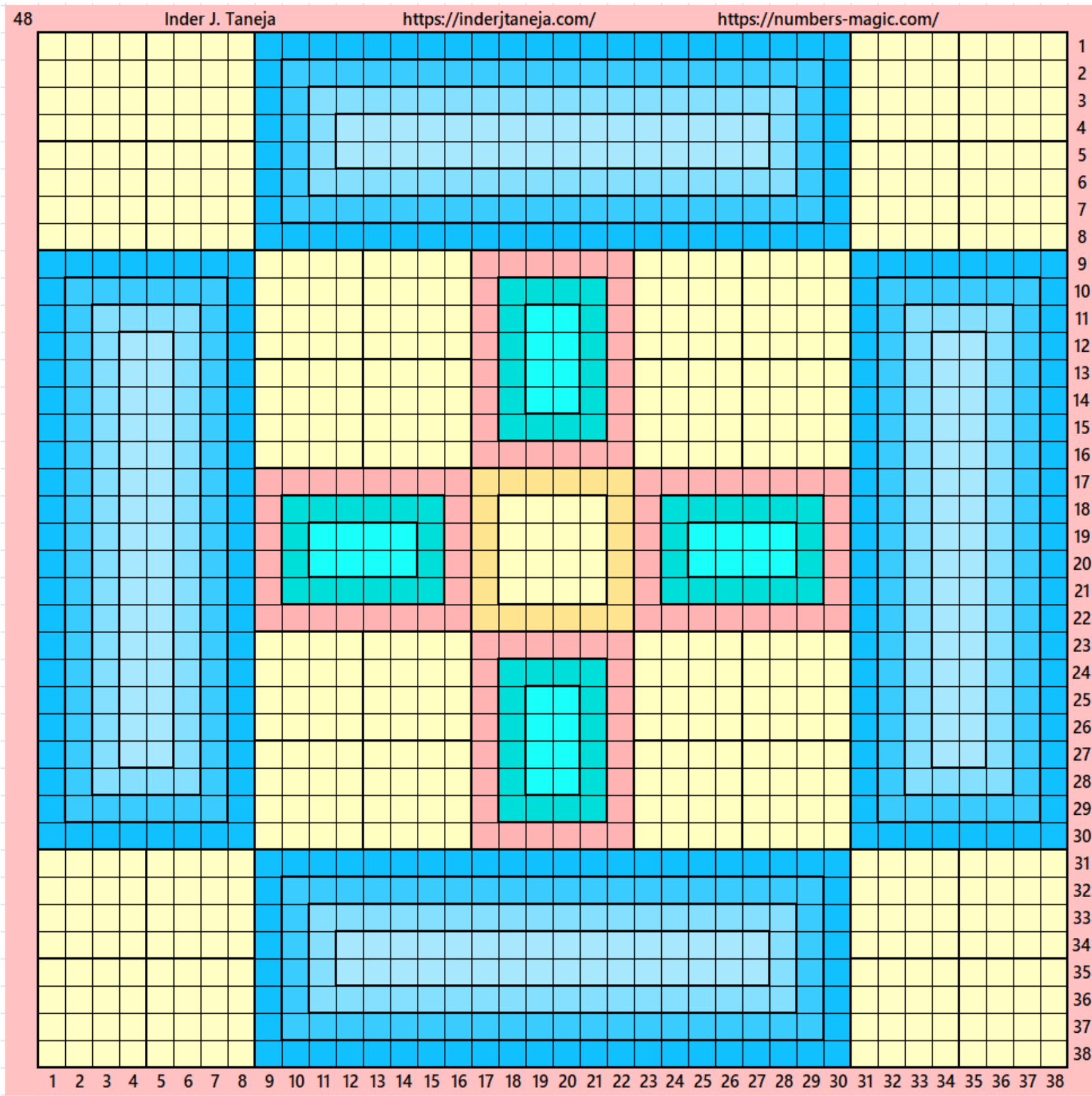


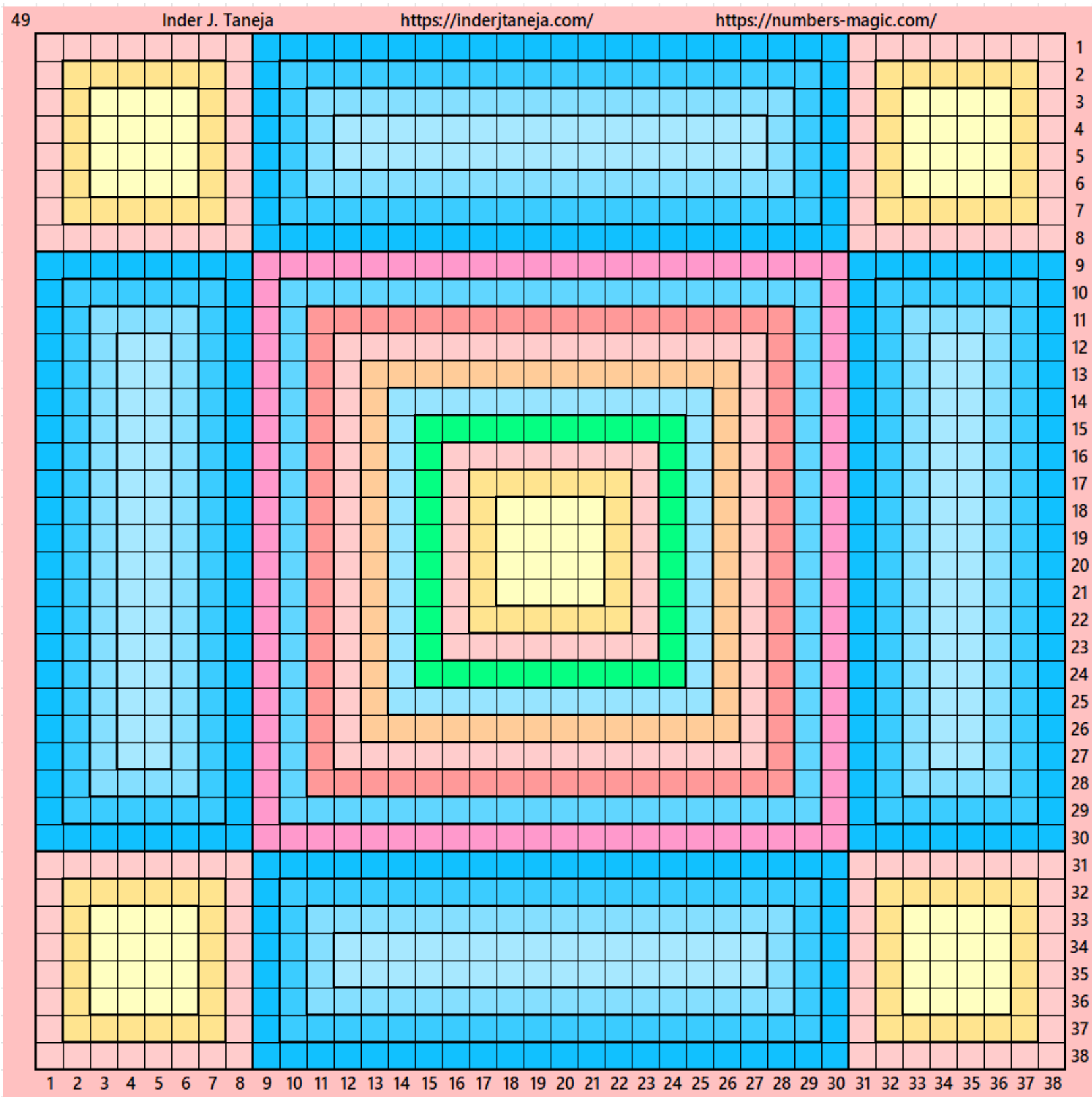
2.5 Cornered Magic Squares of Order 8

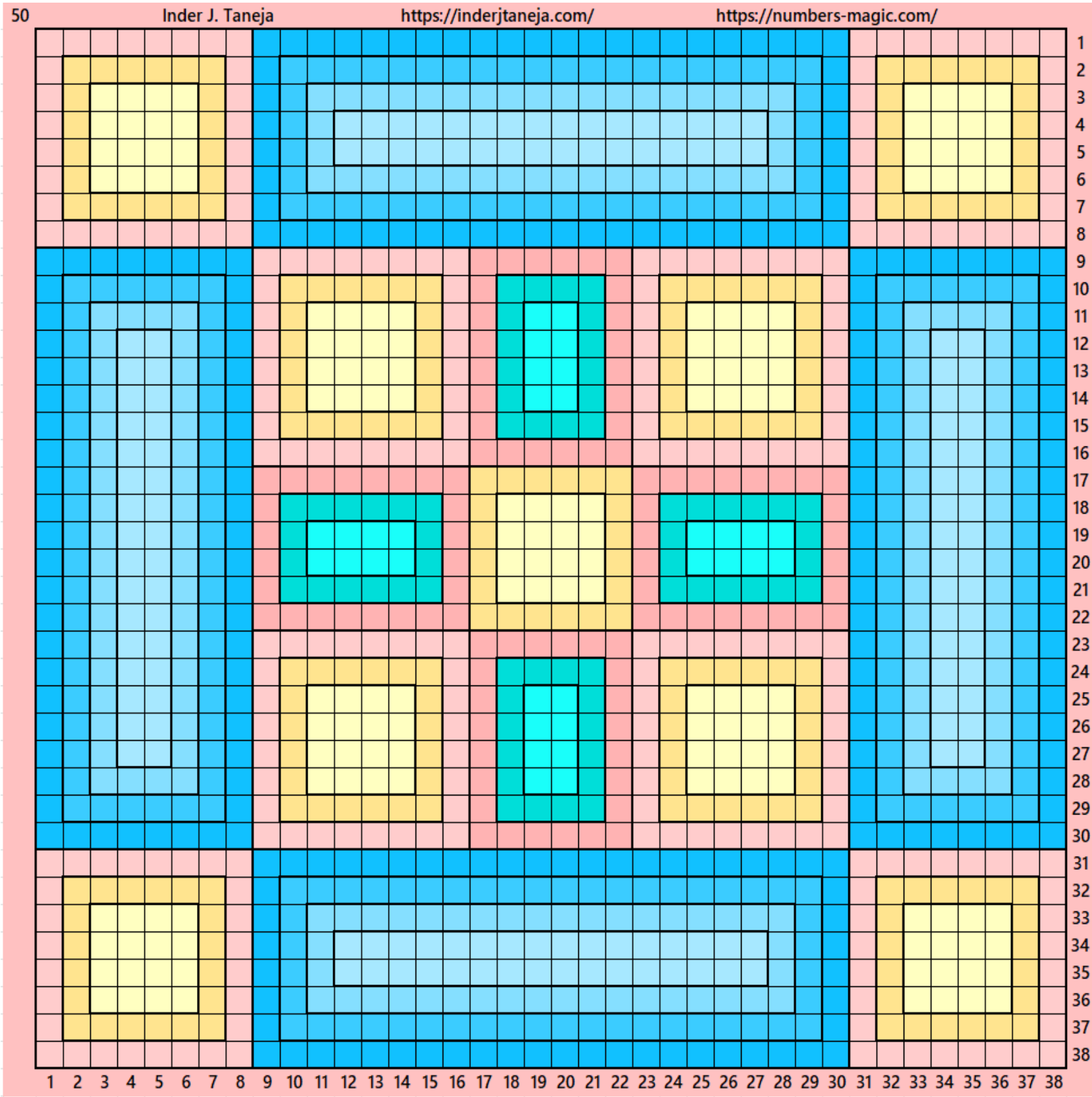


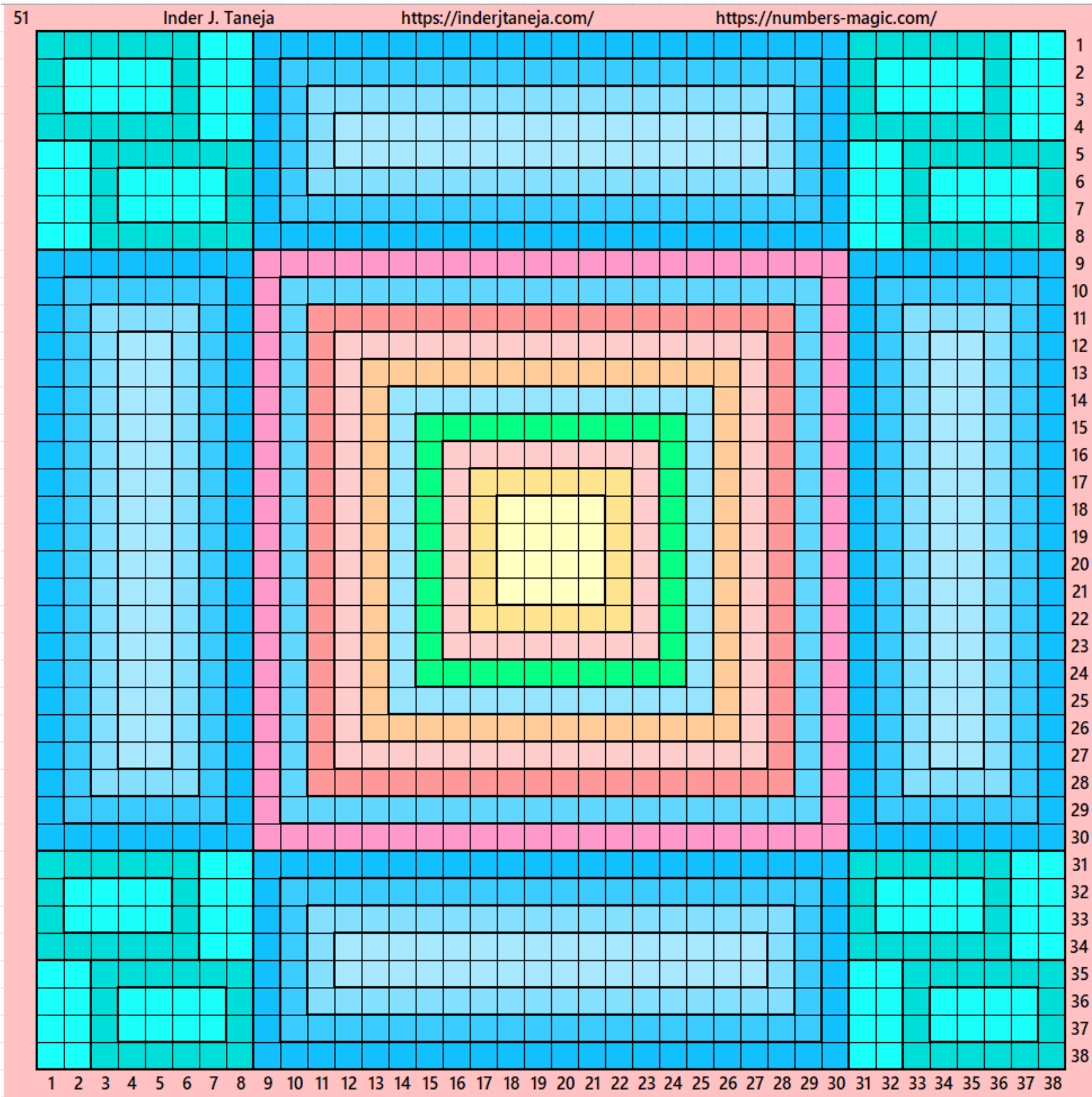


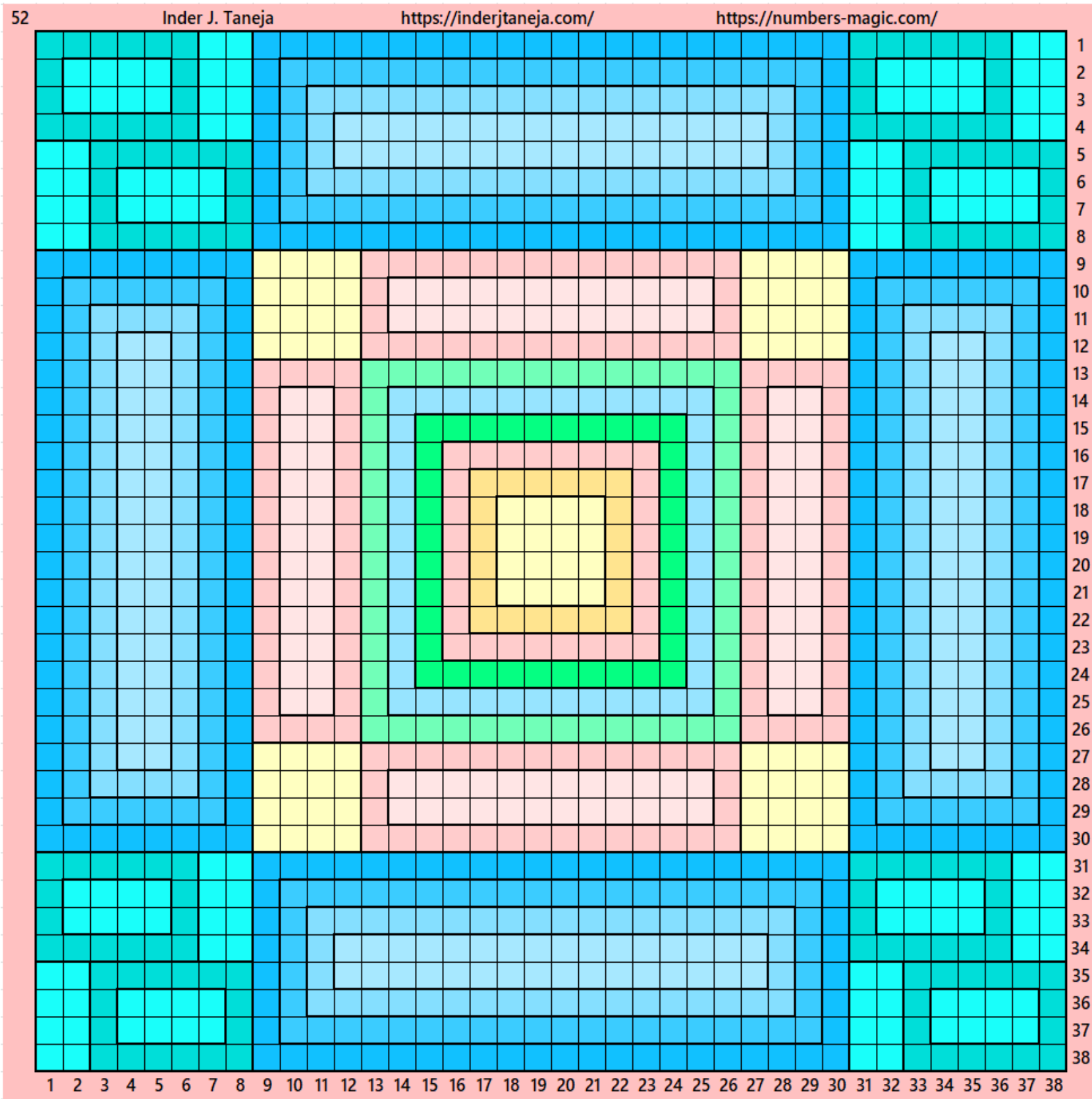


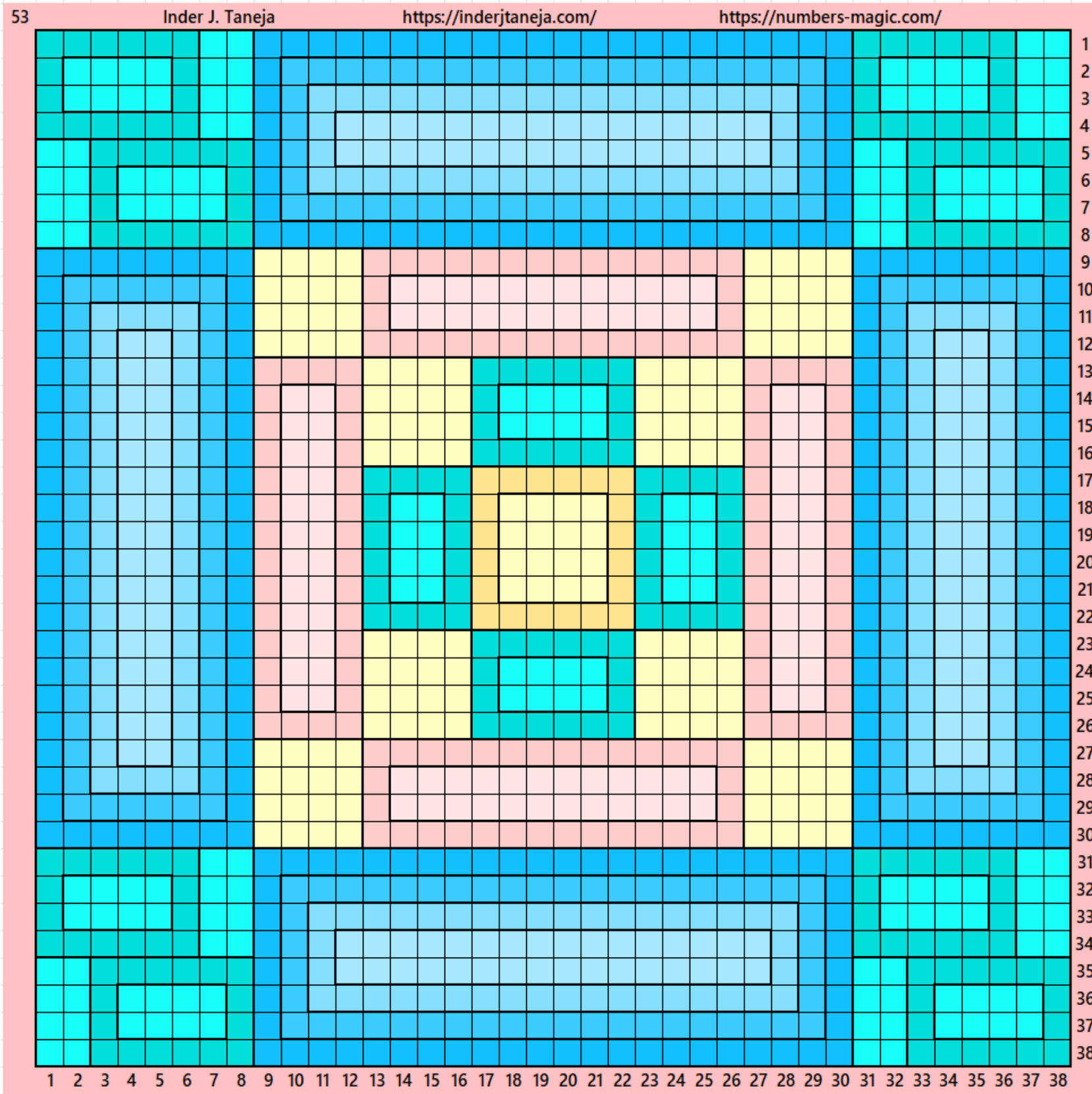


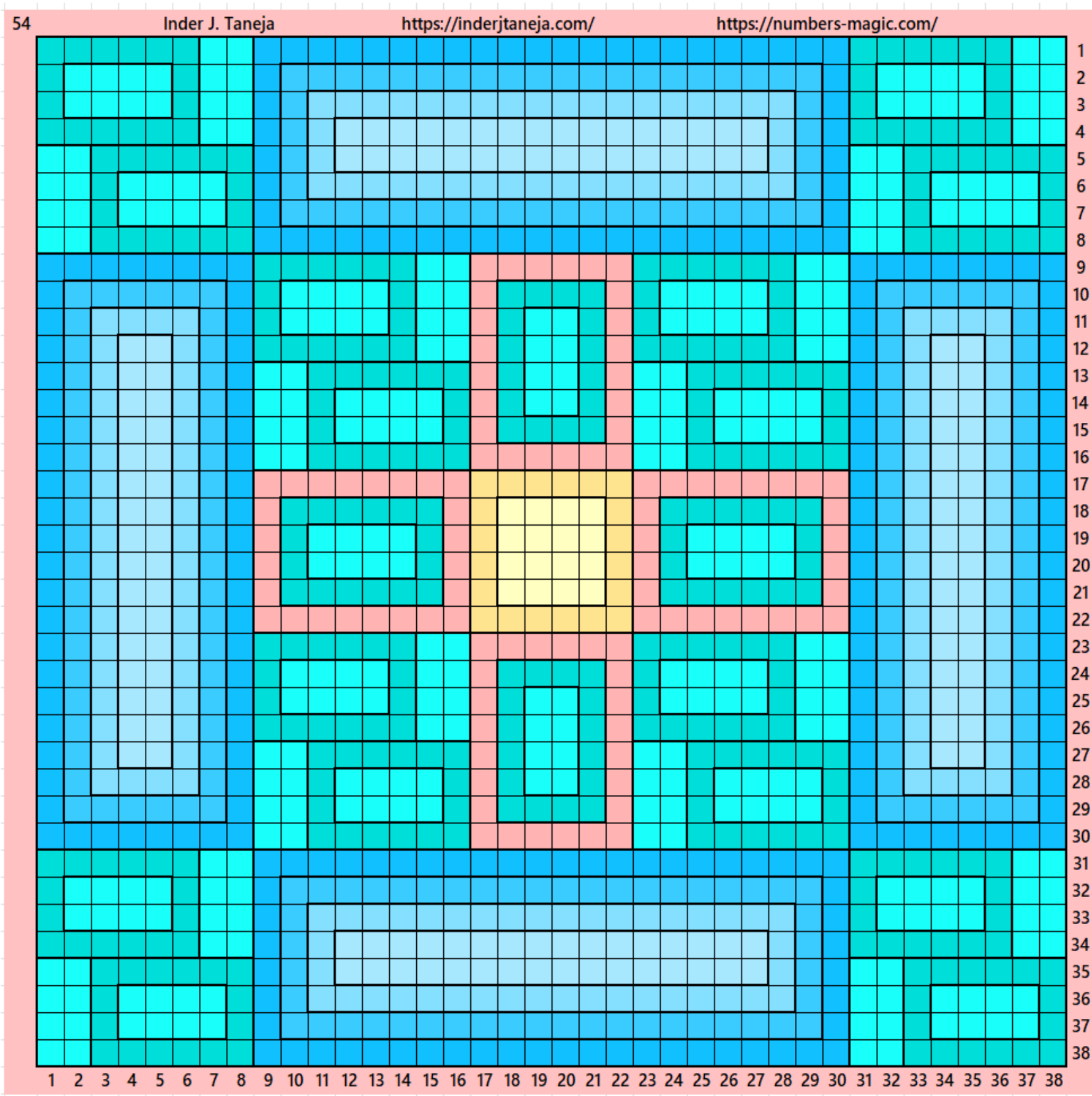


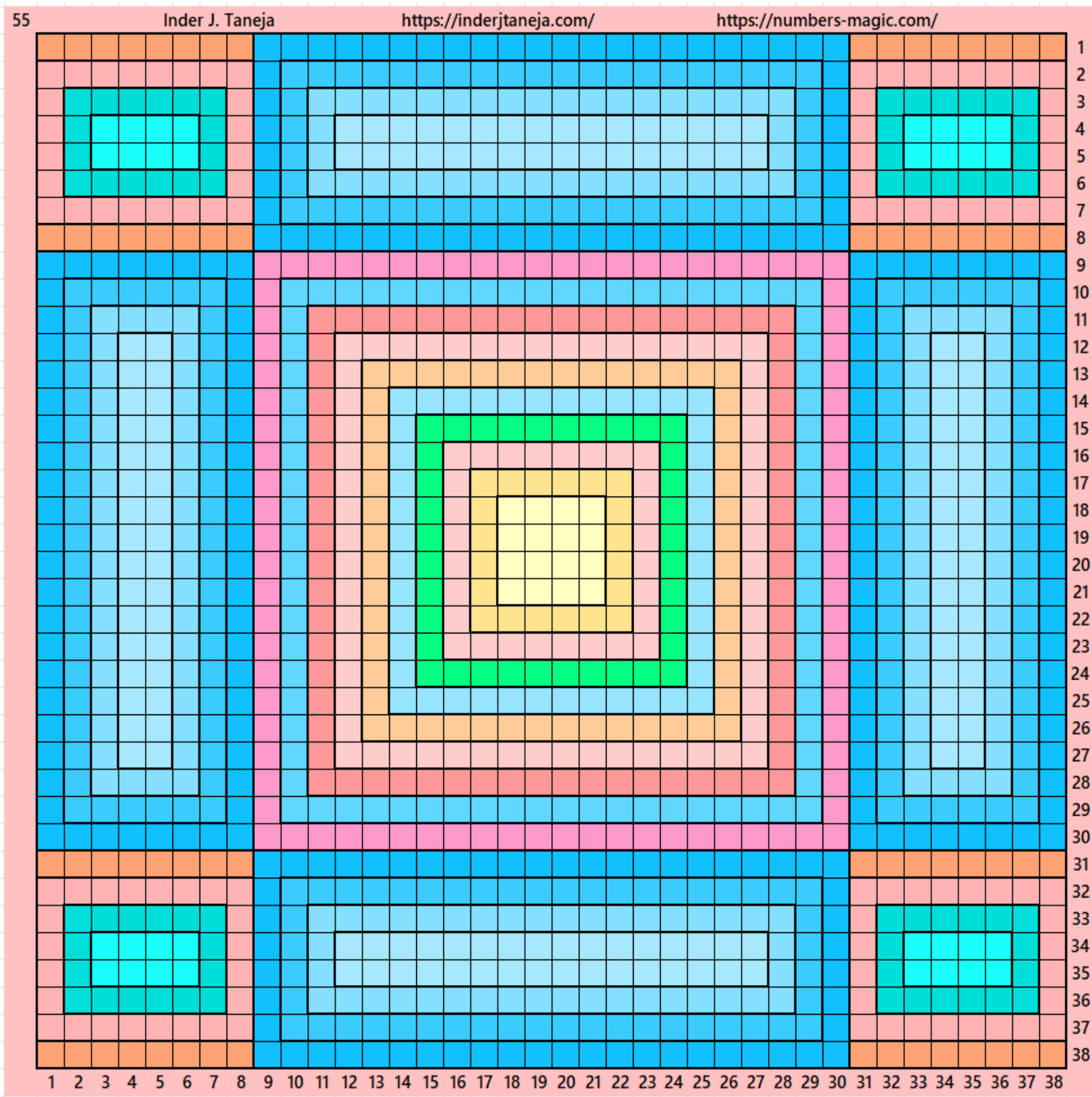


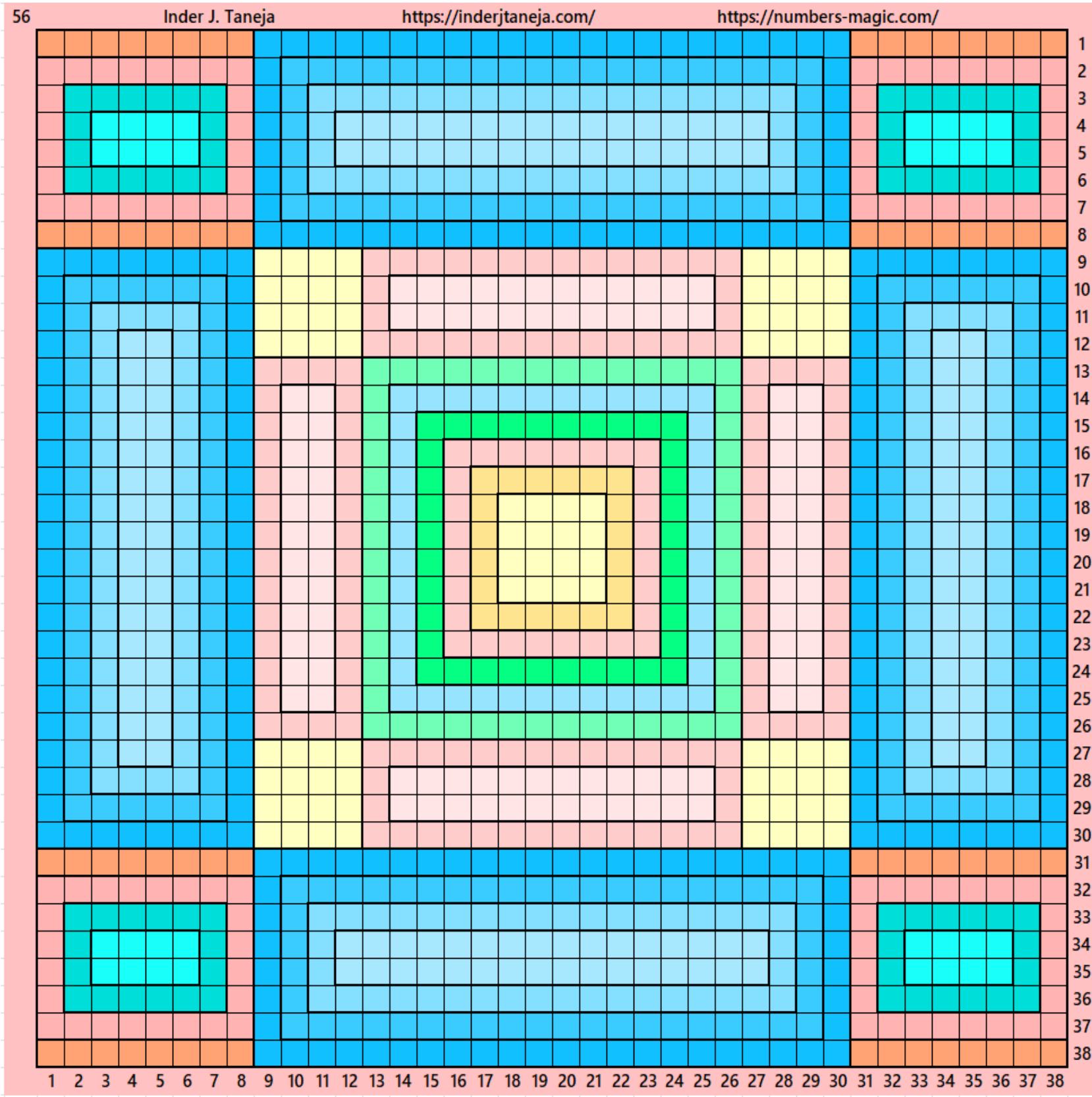


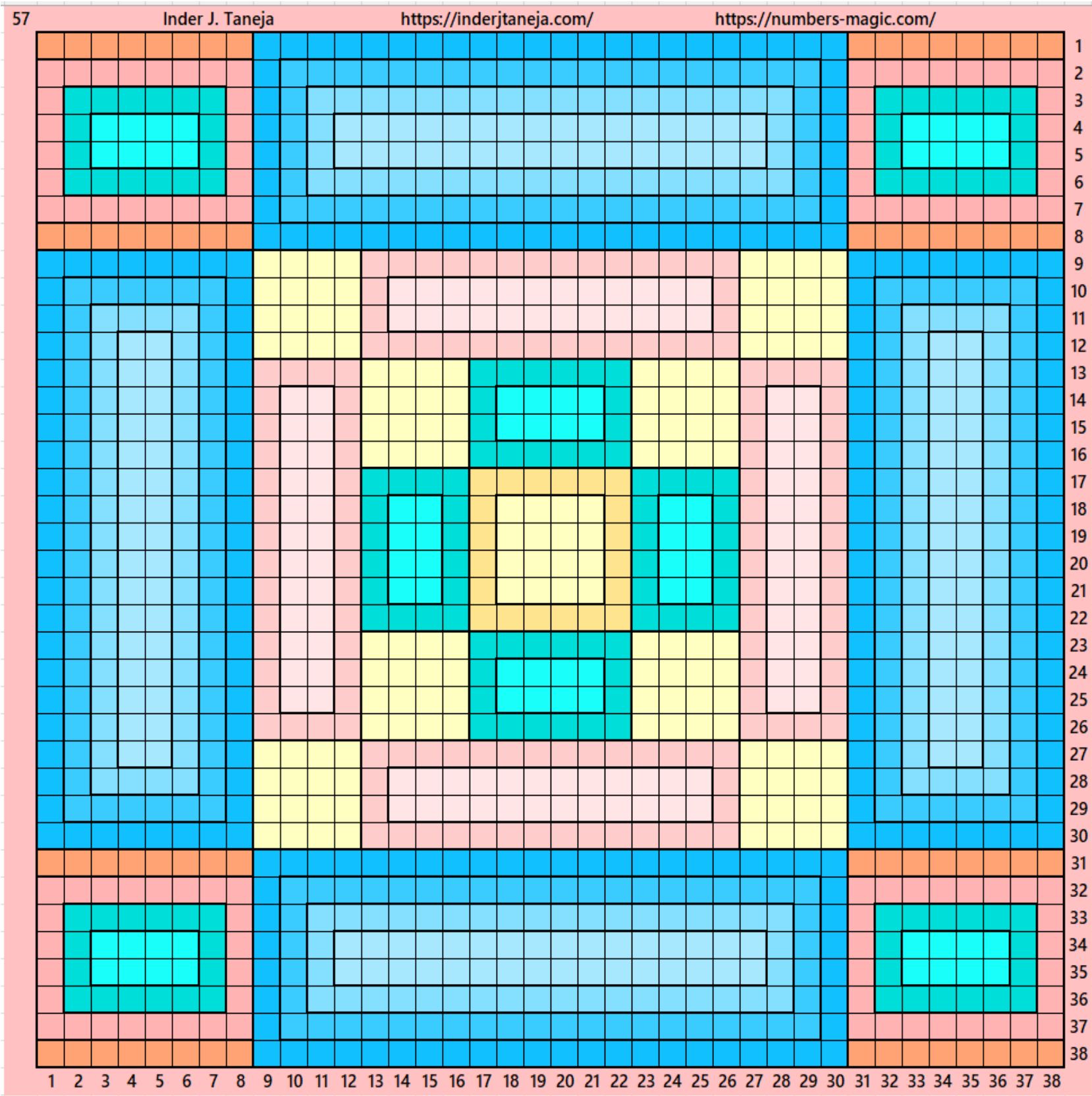


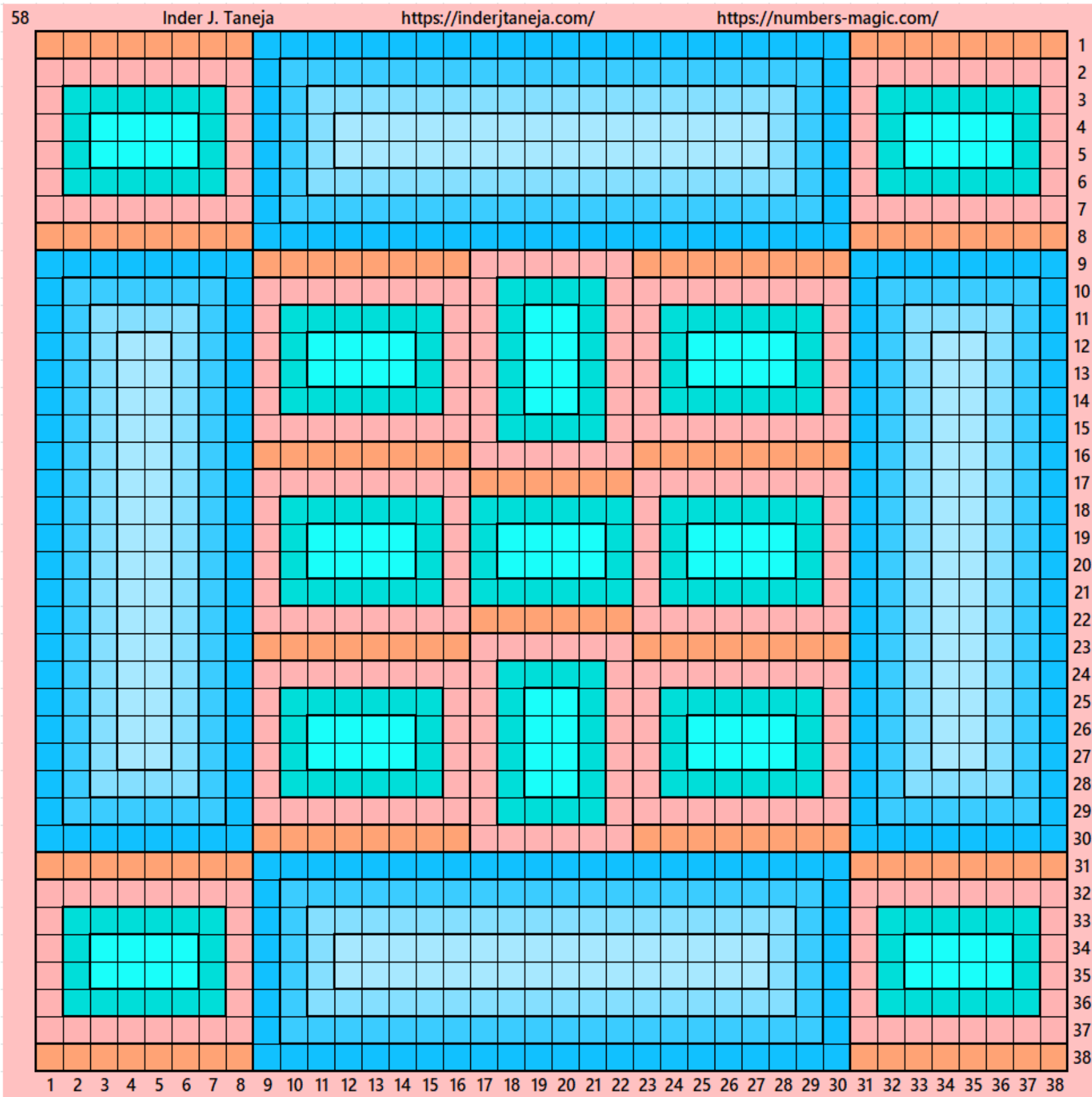




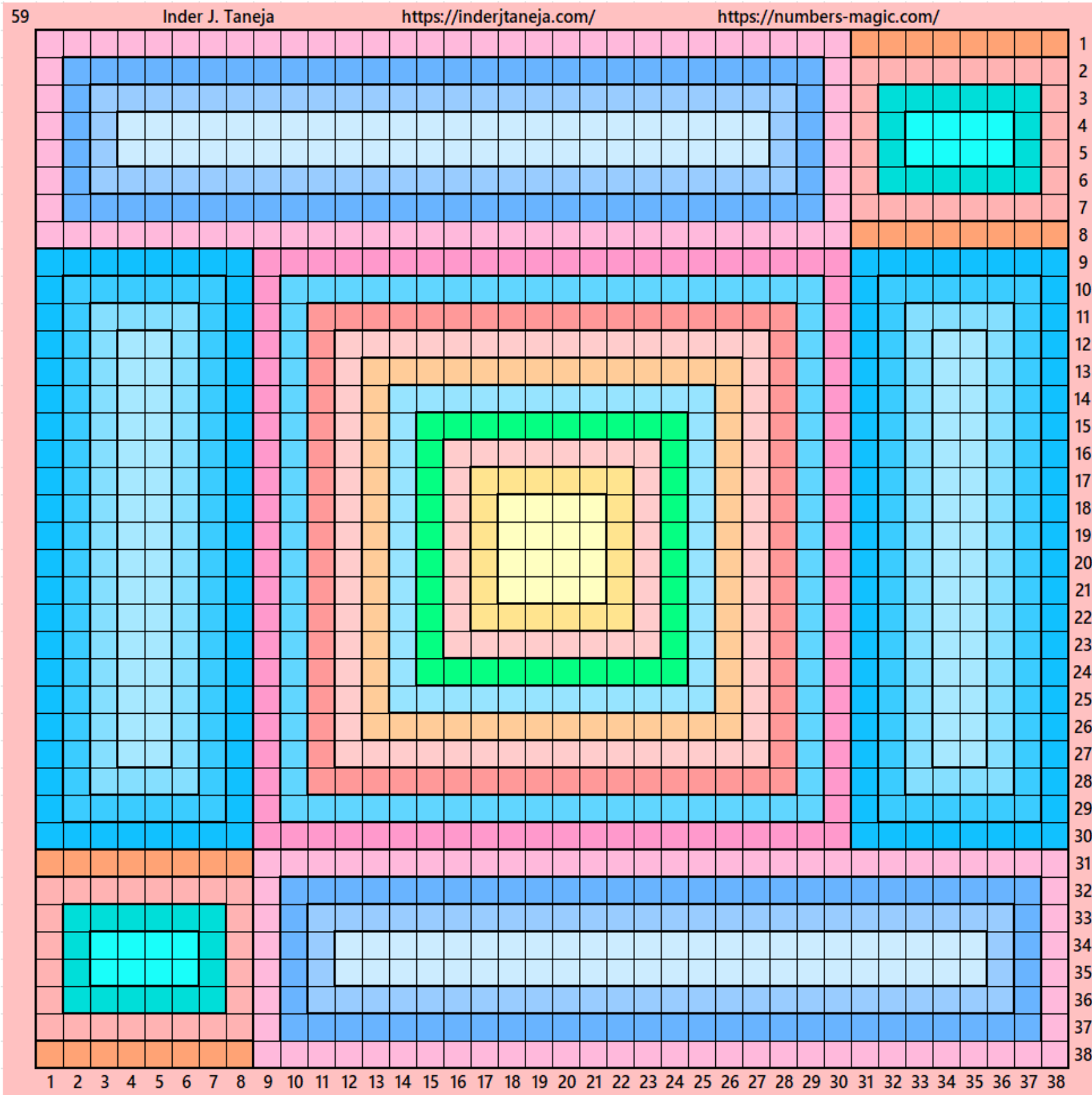


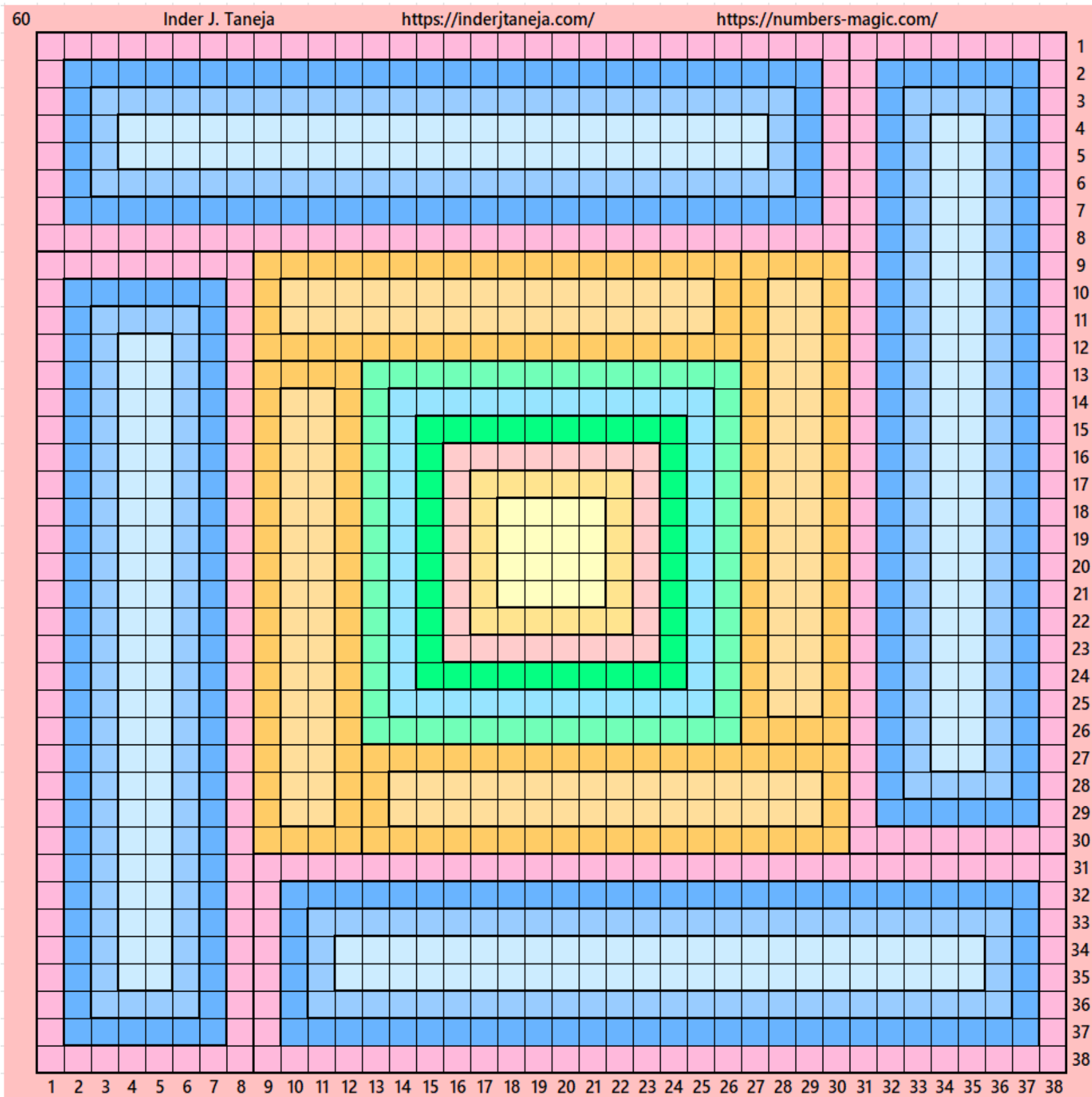


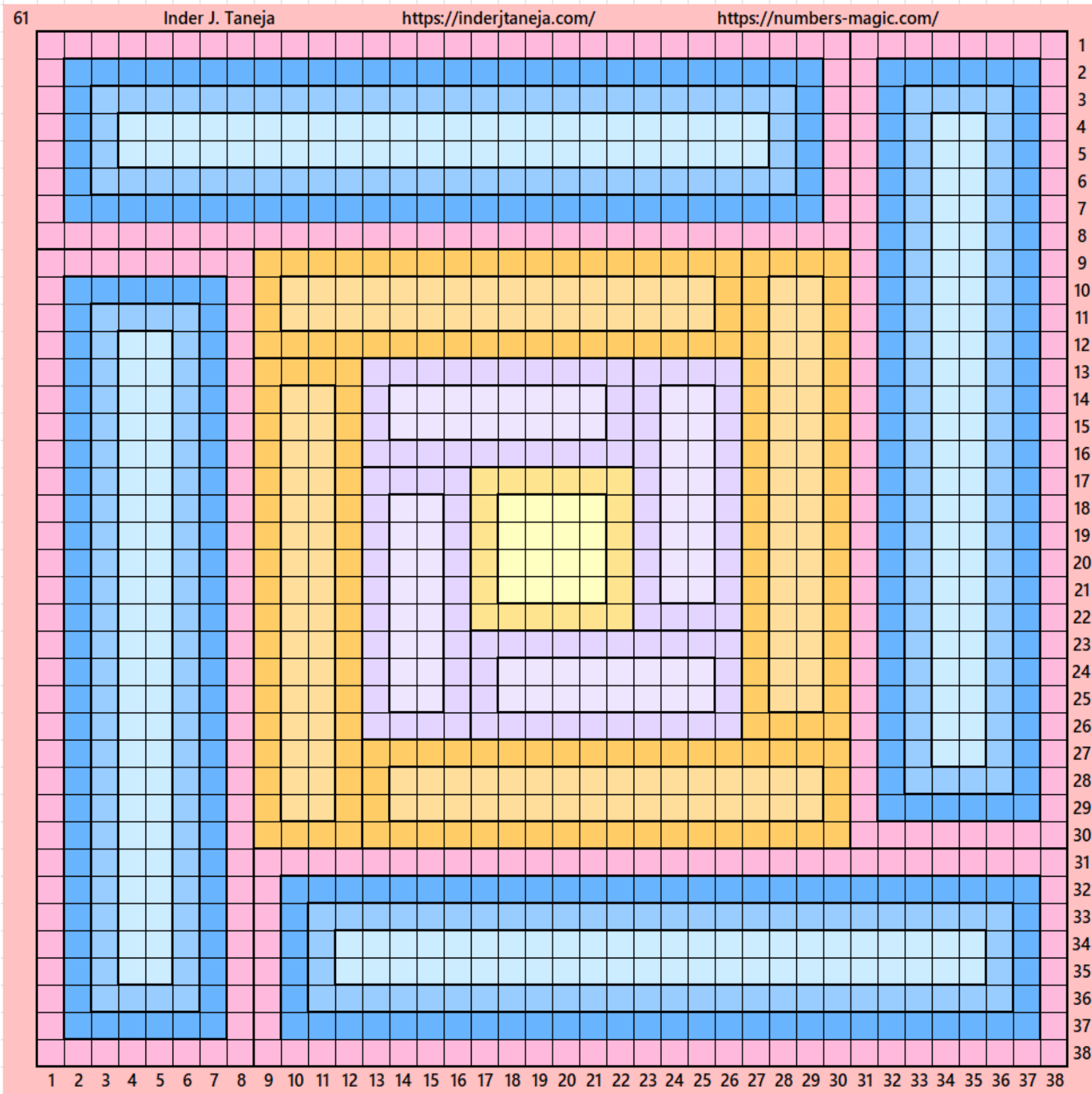


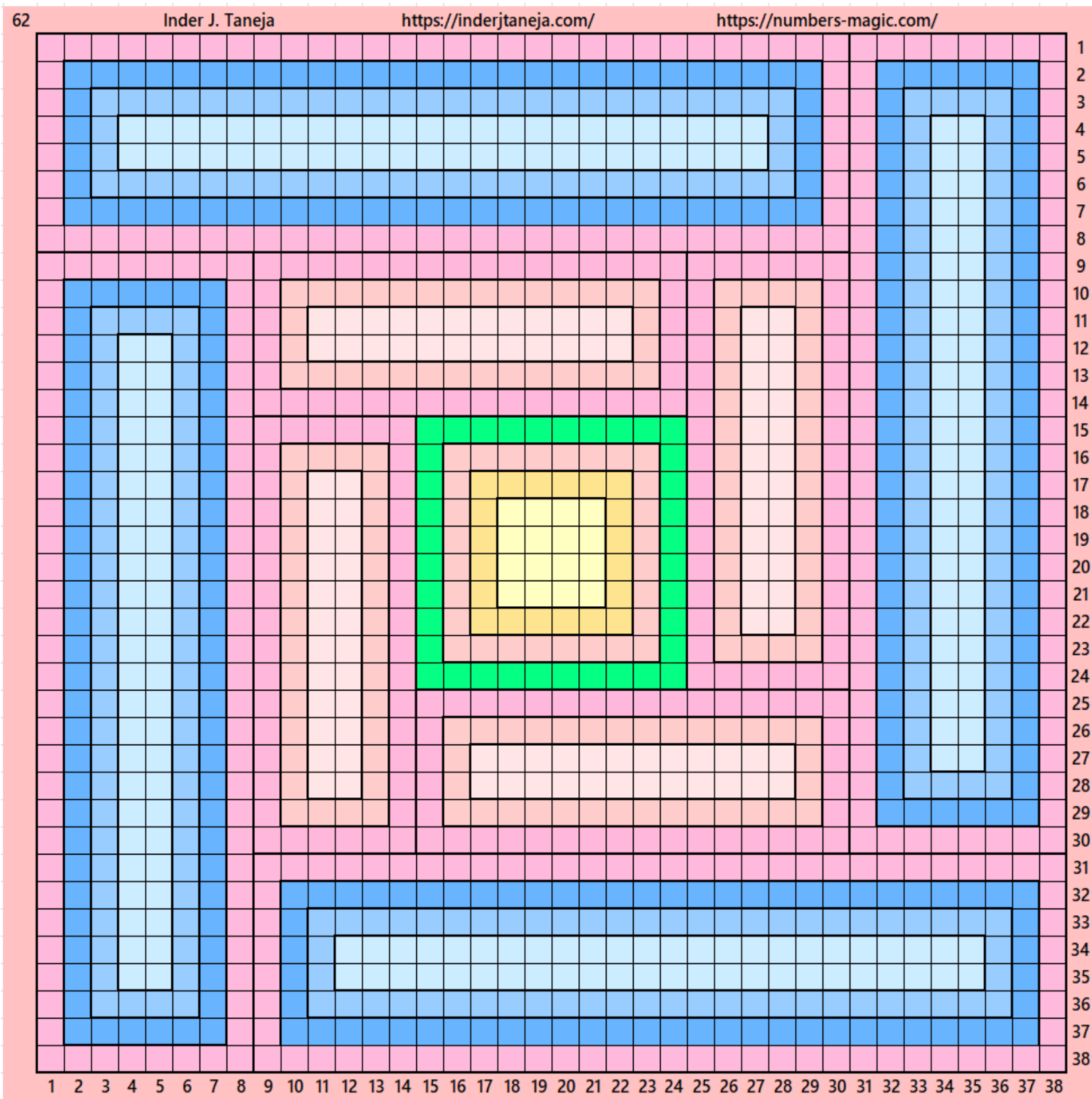


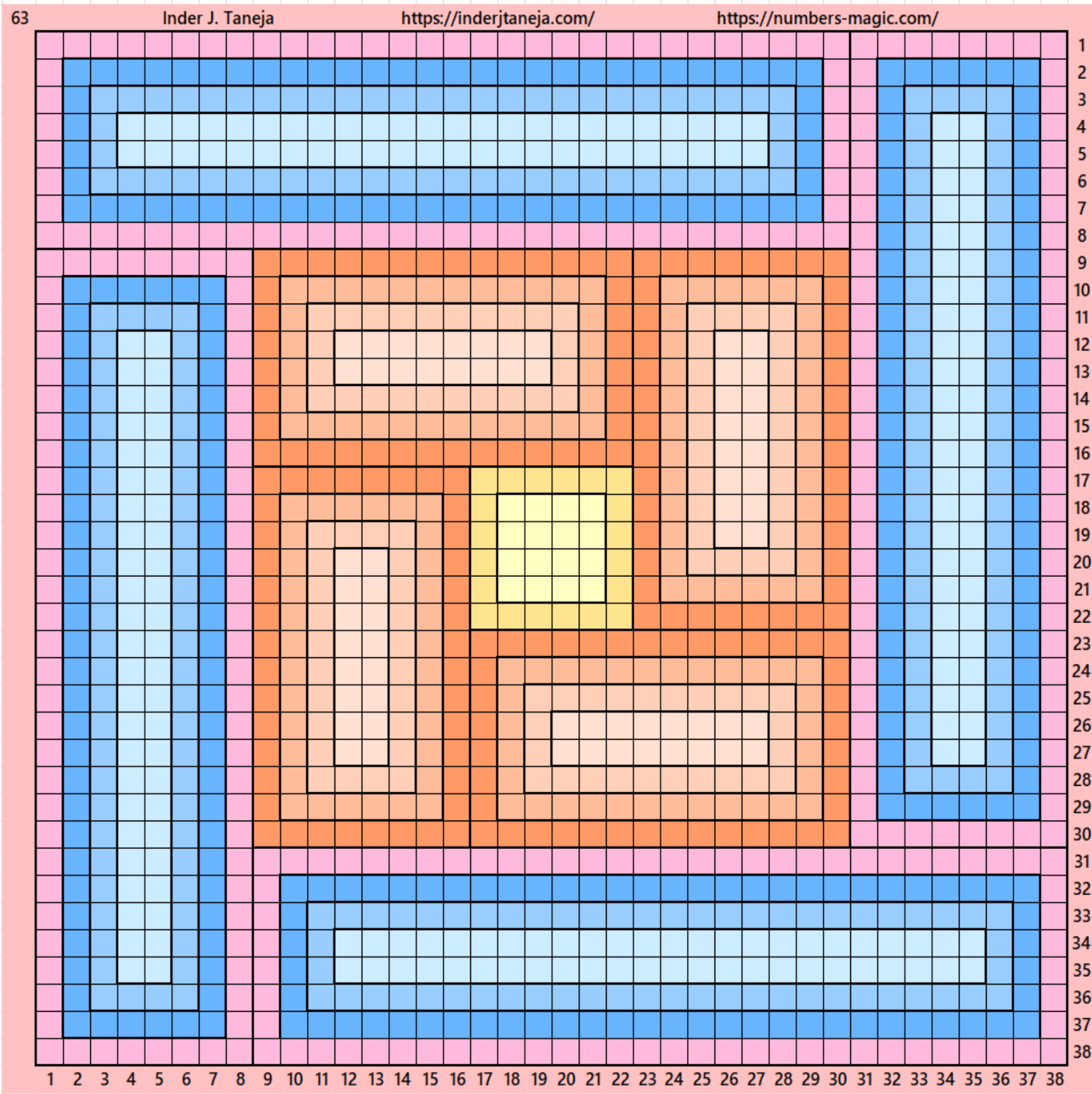
2.6 Closed Border of Order 8



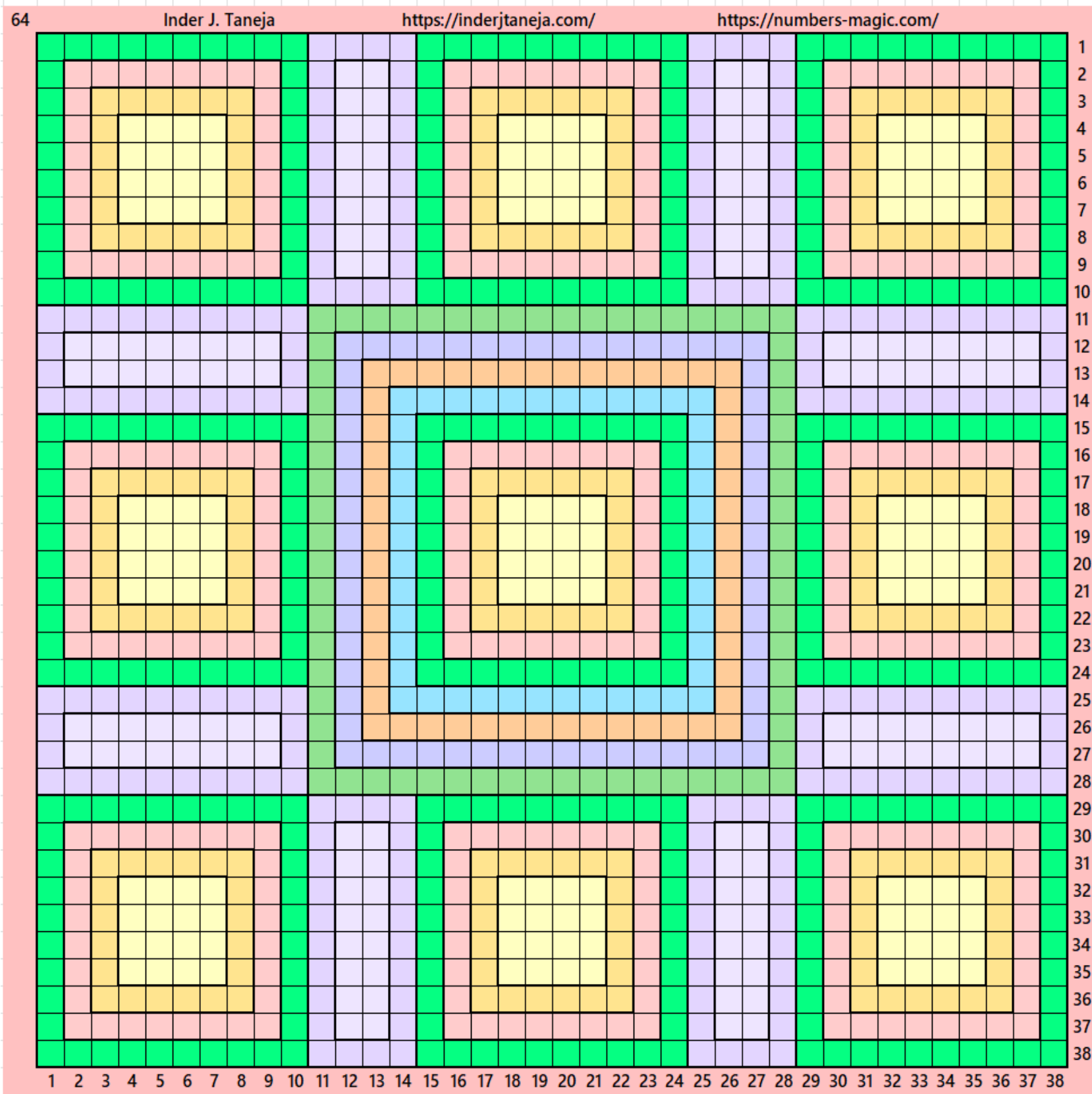


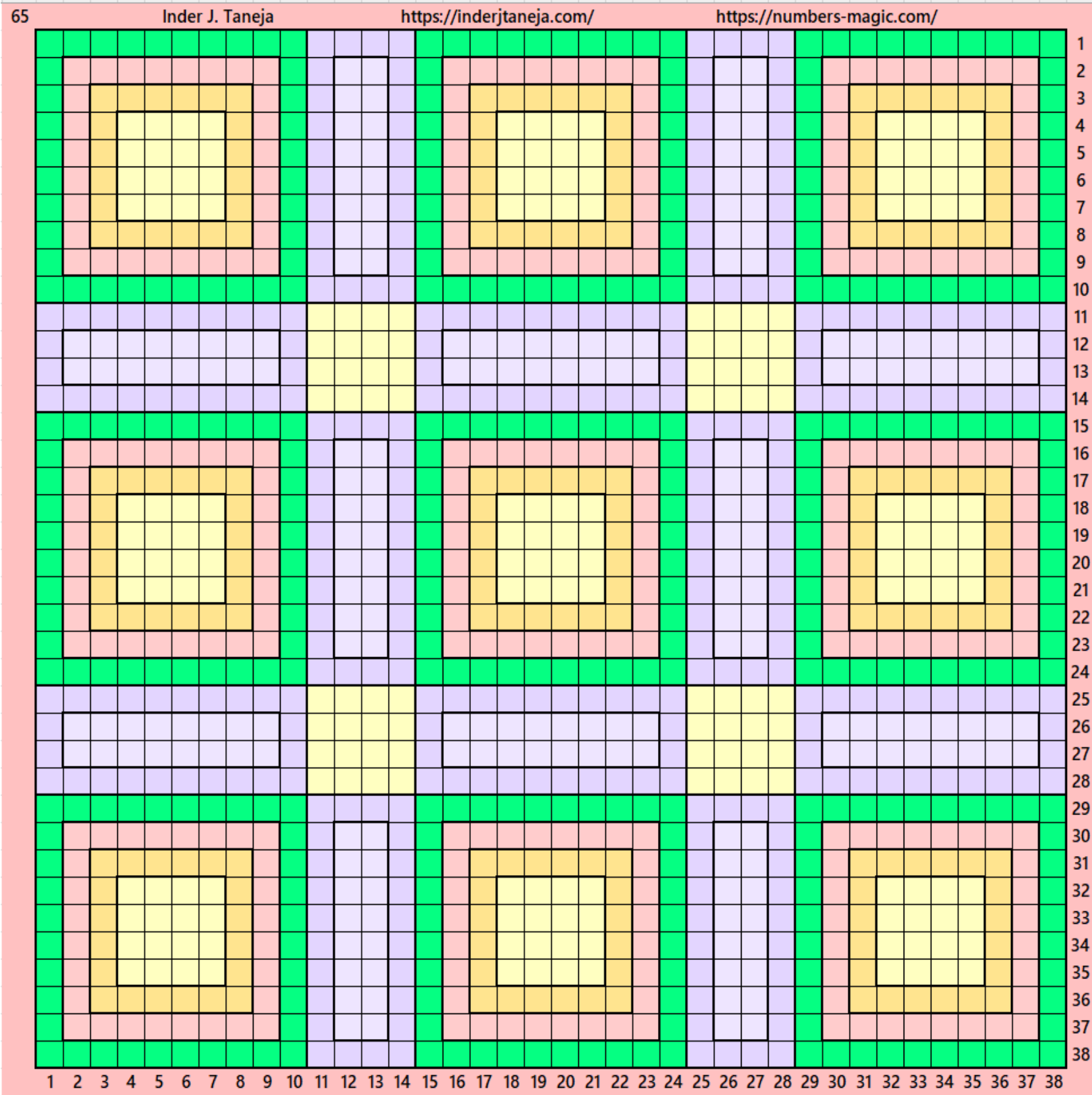


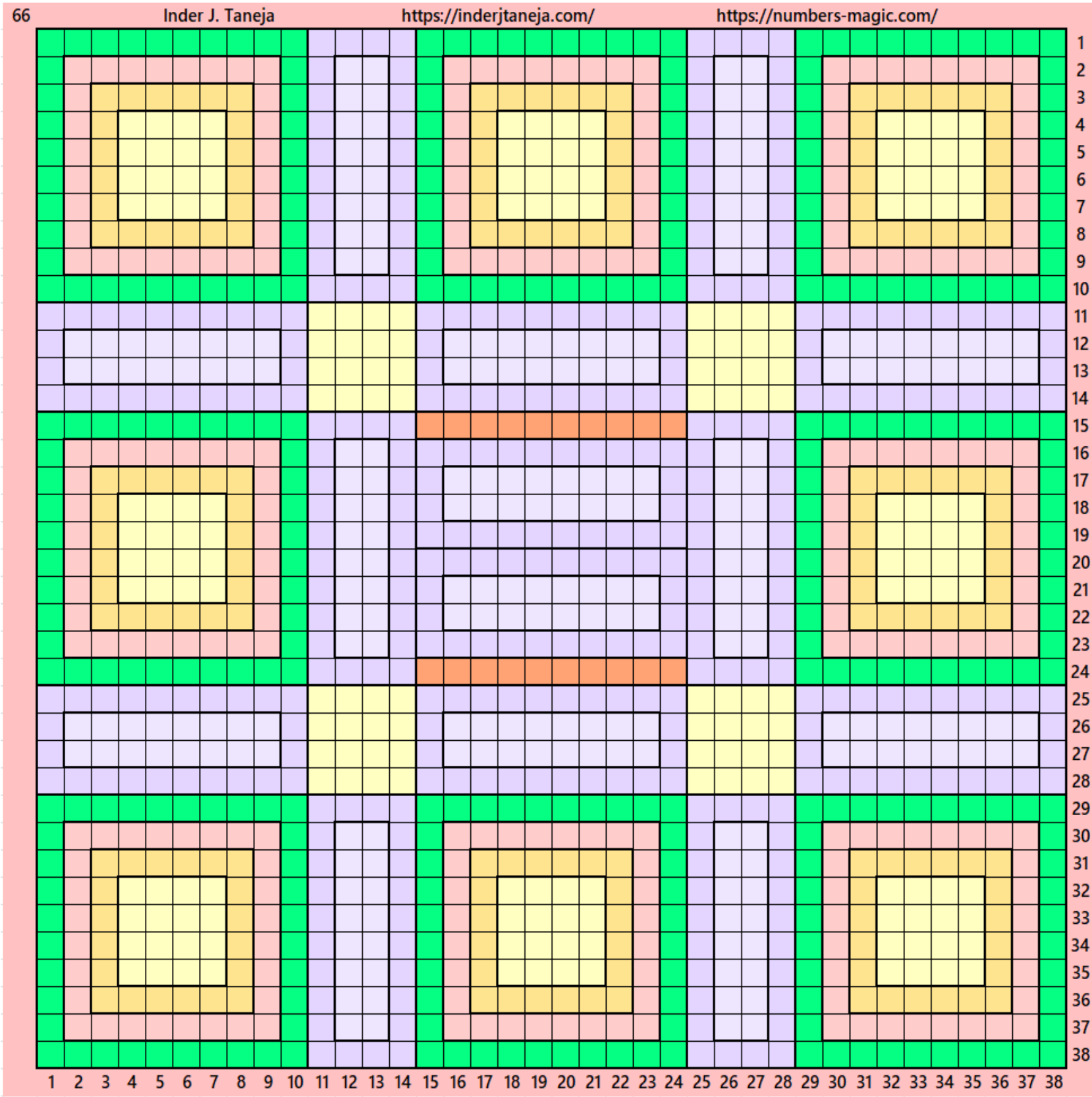


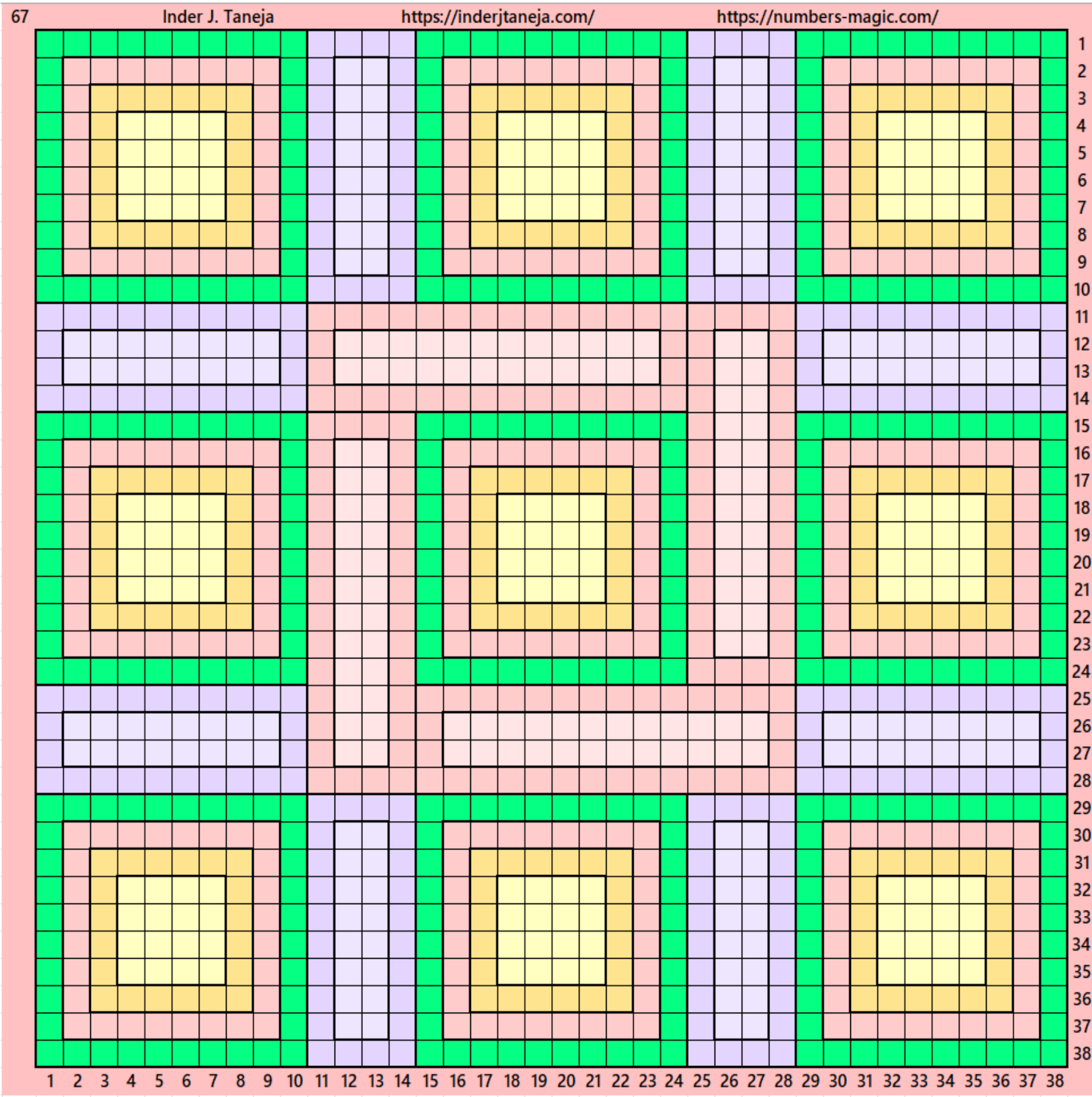


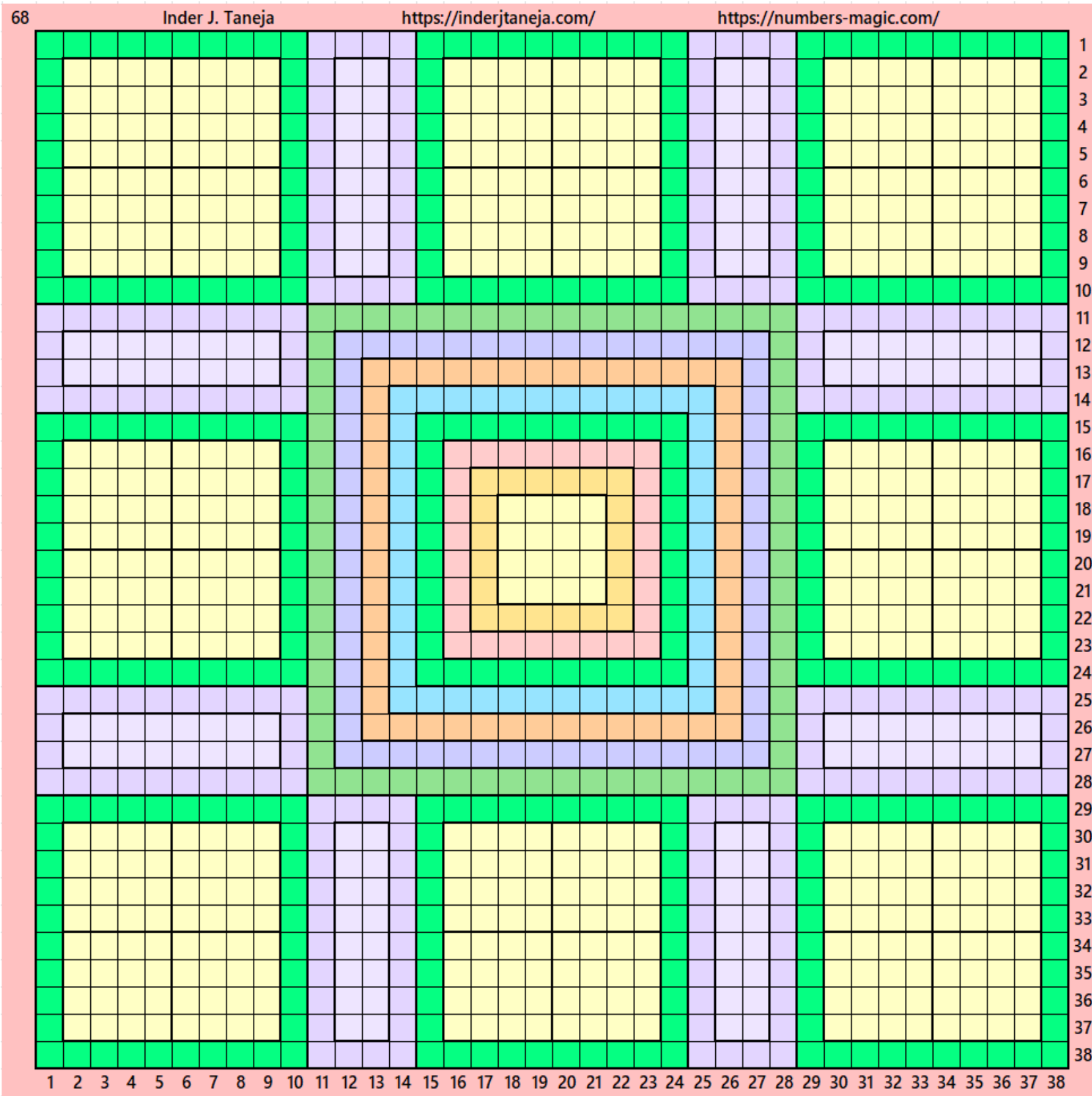
2.7 Cornered Magic Squares of Order 10

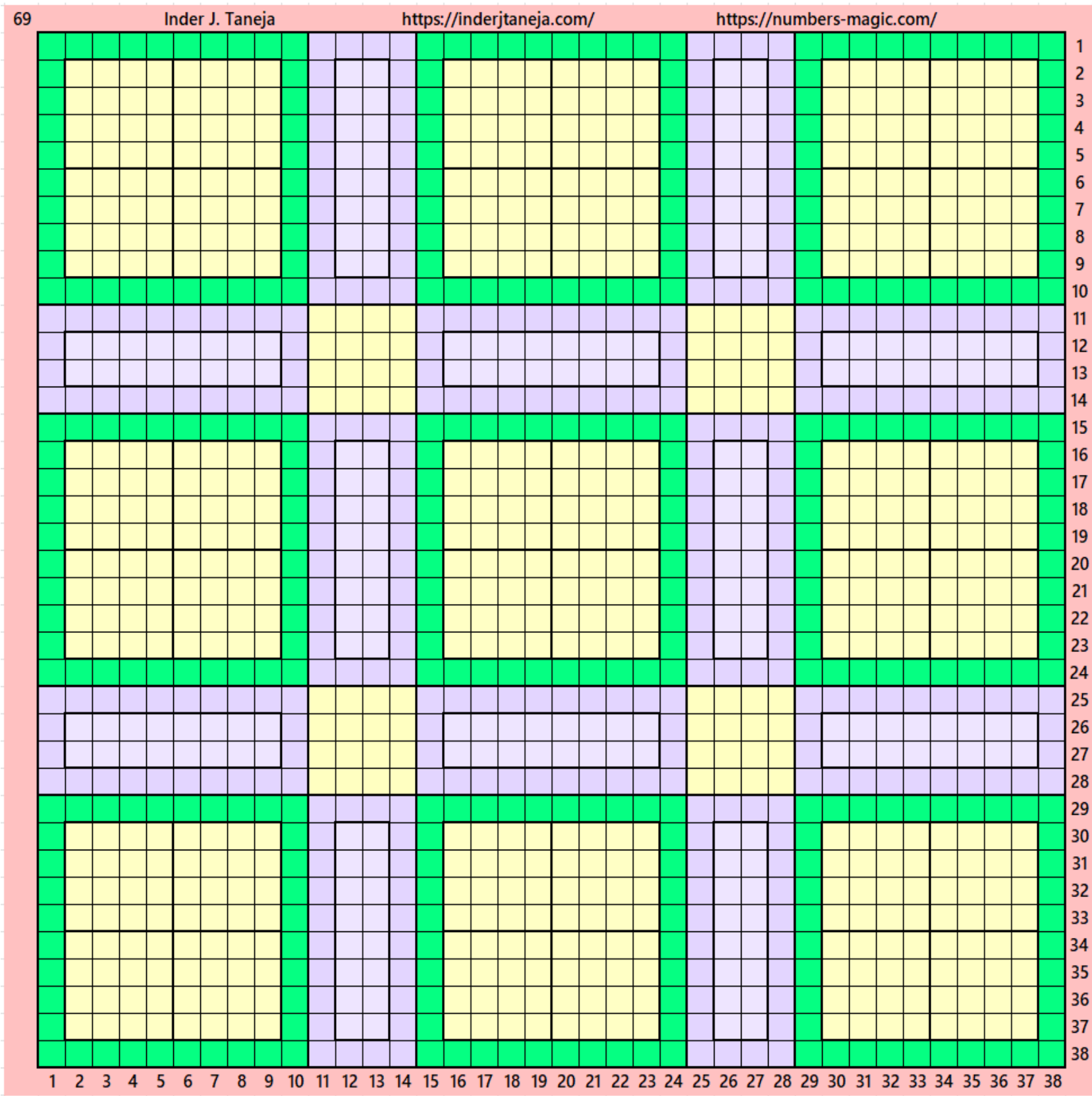


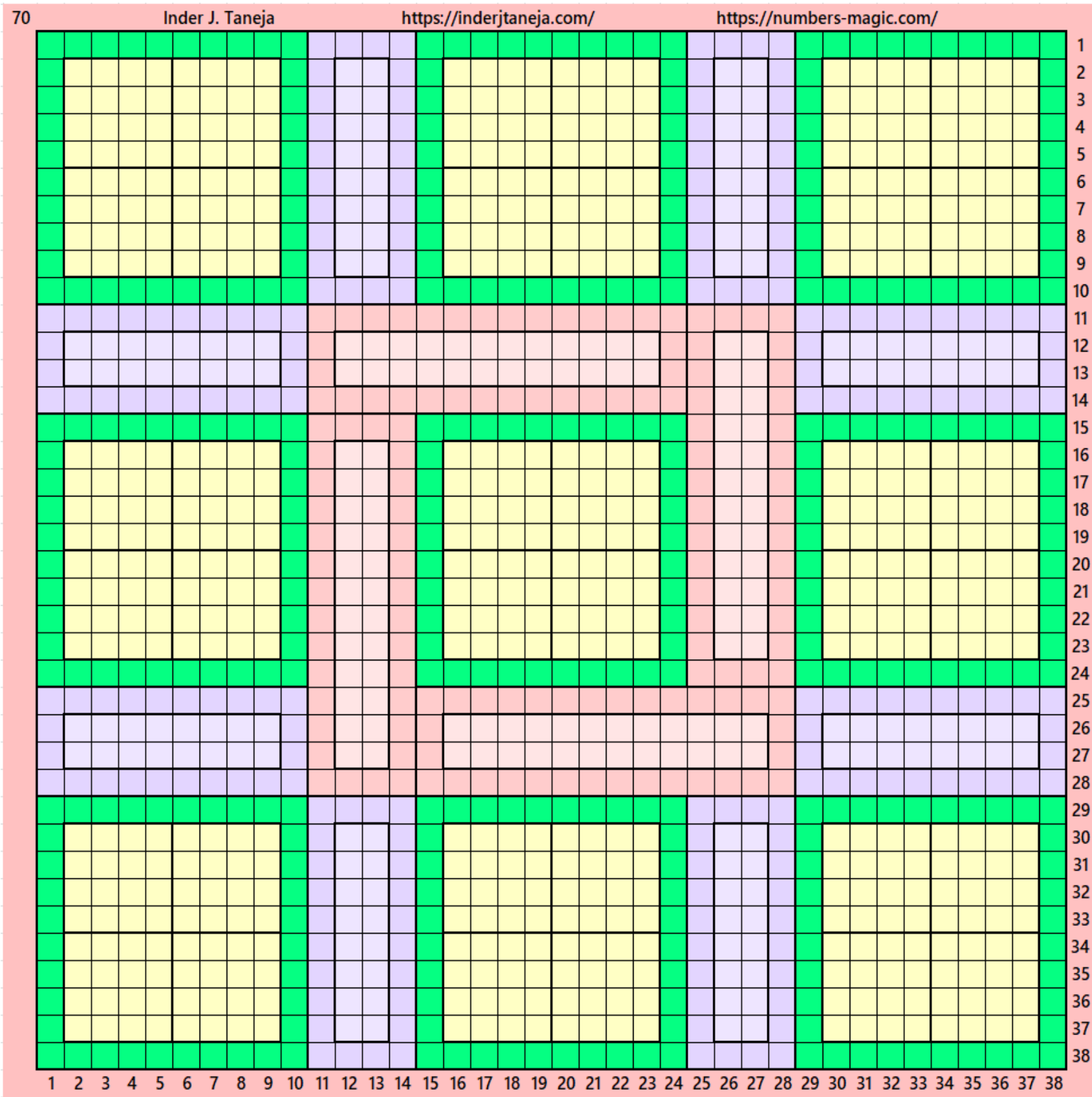


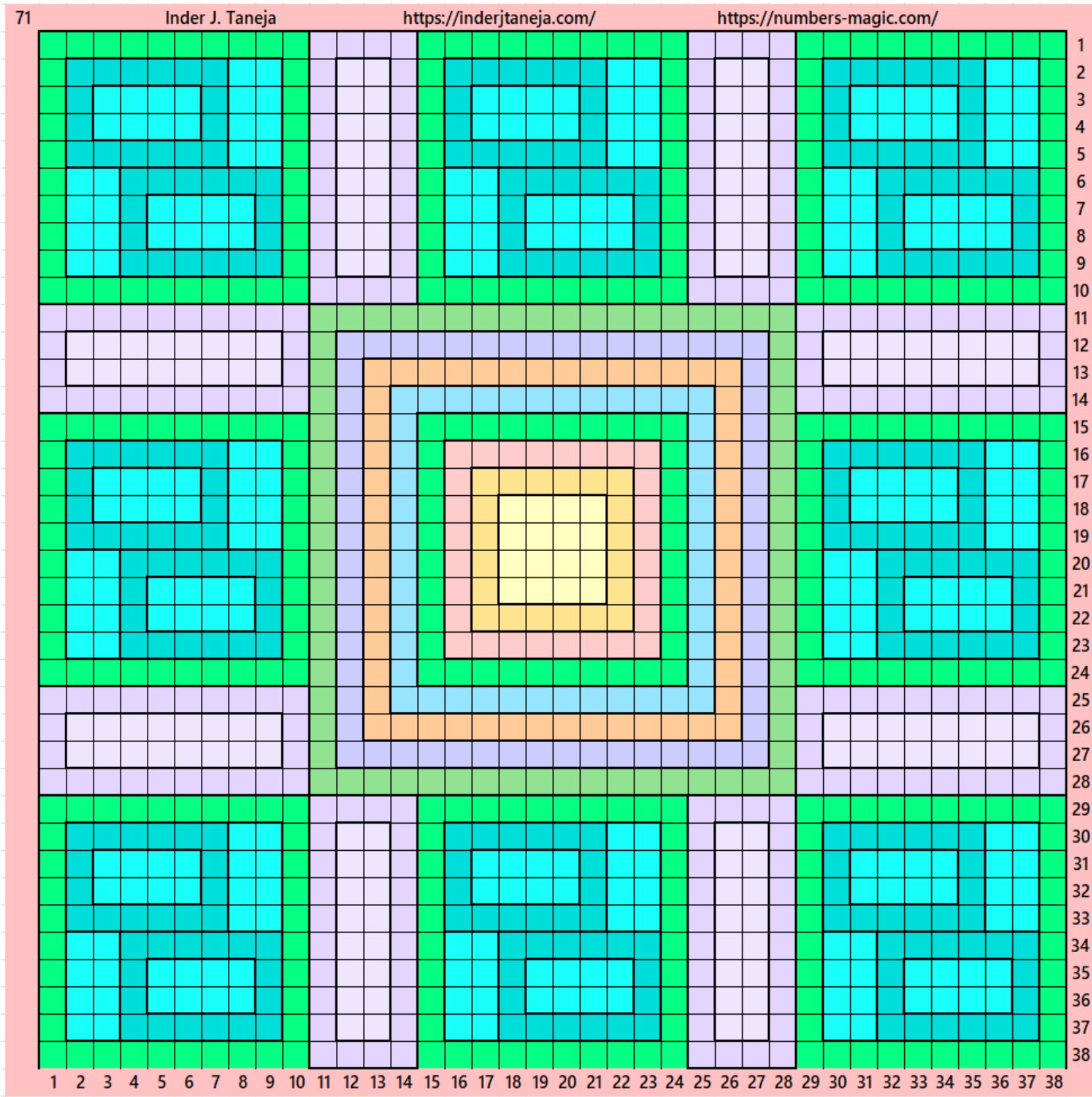


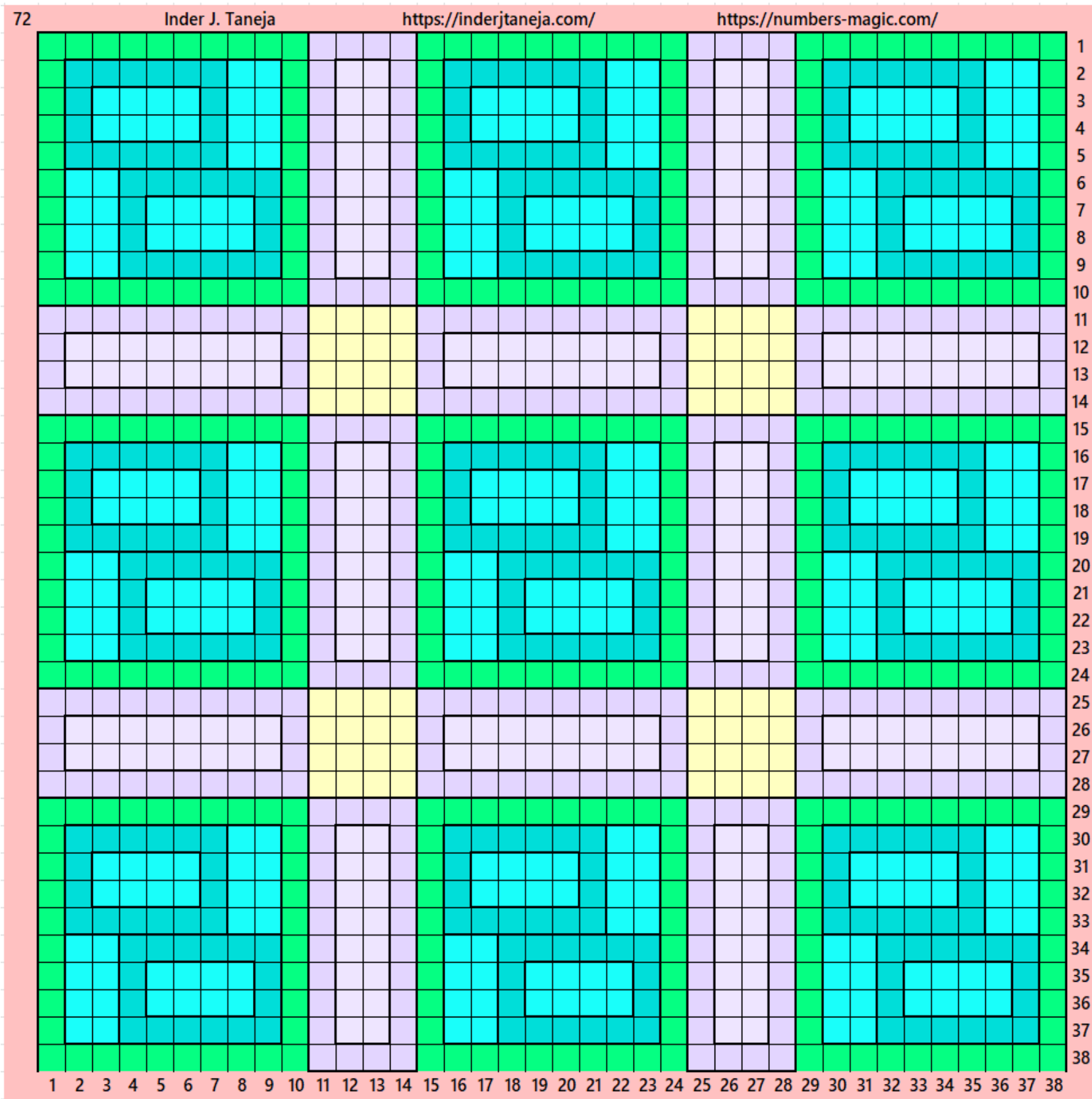


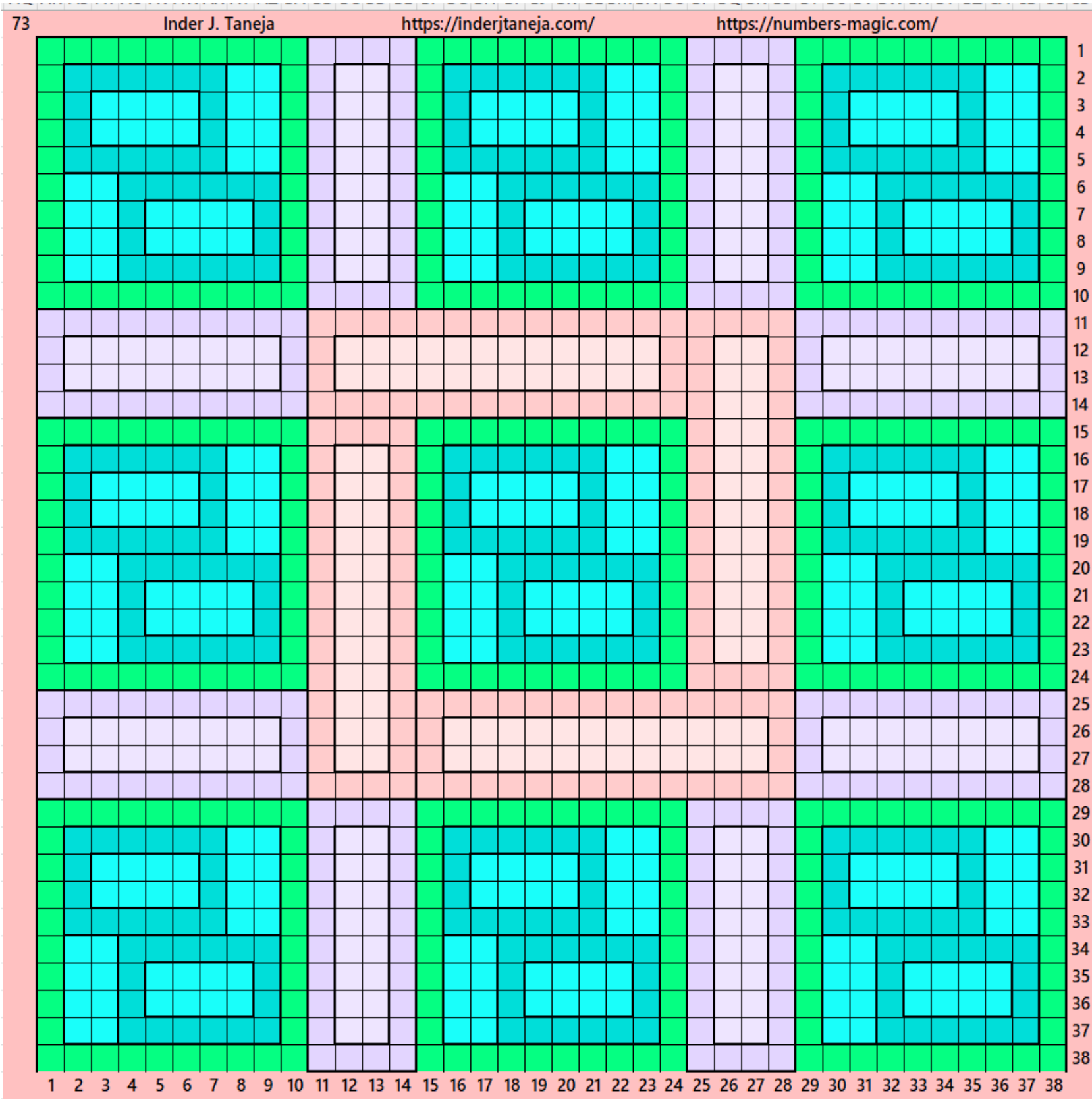


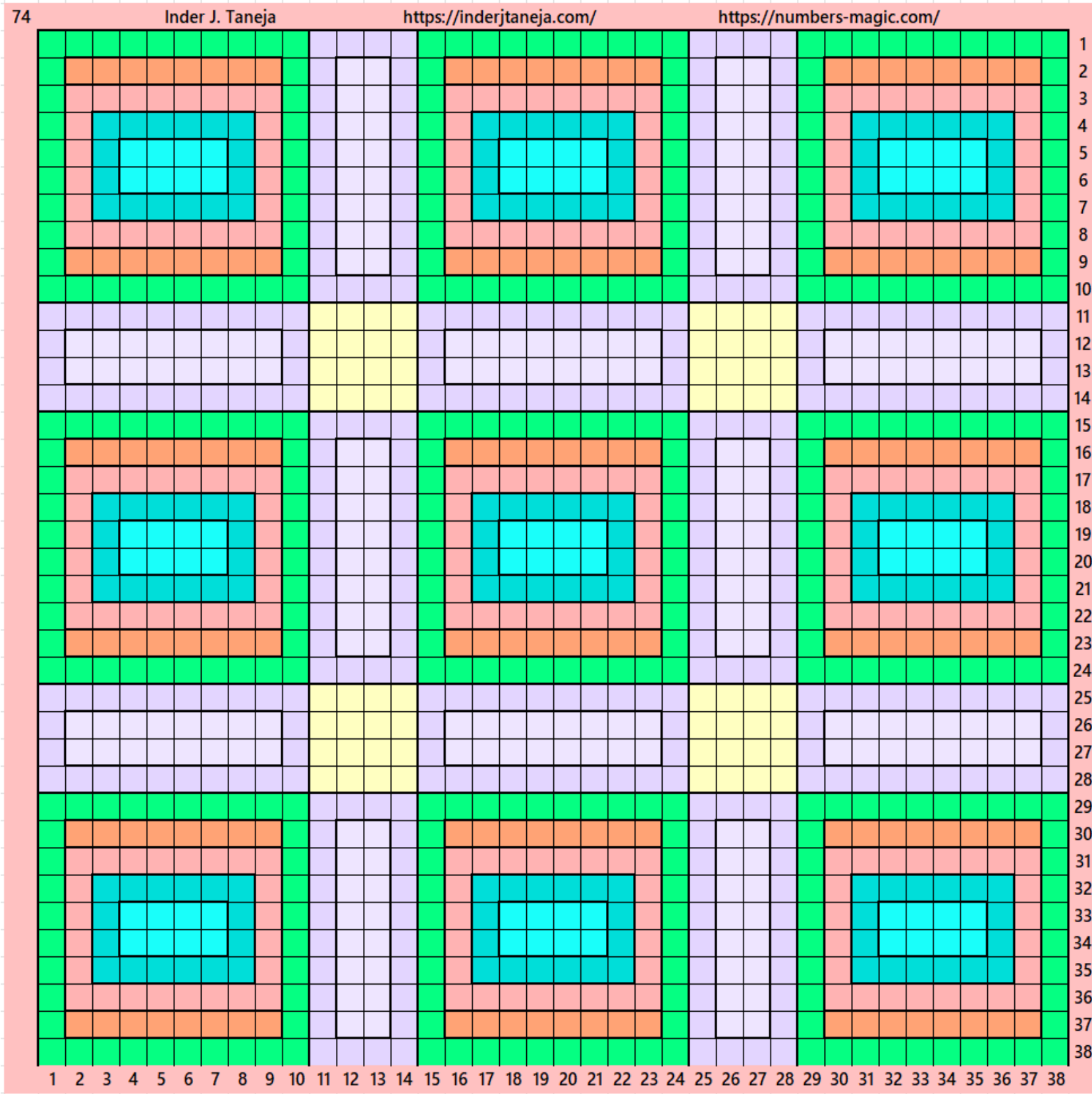


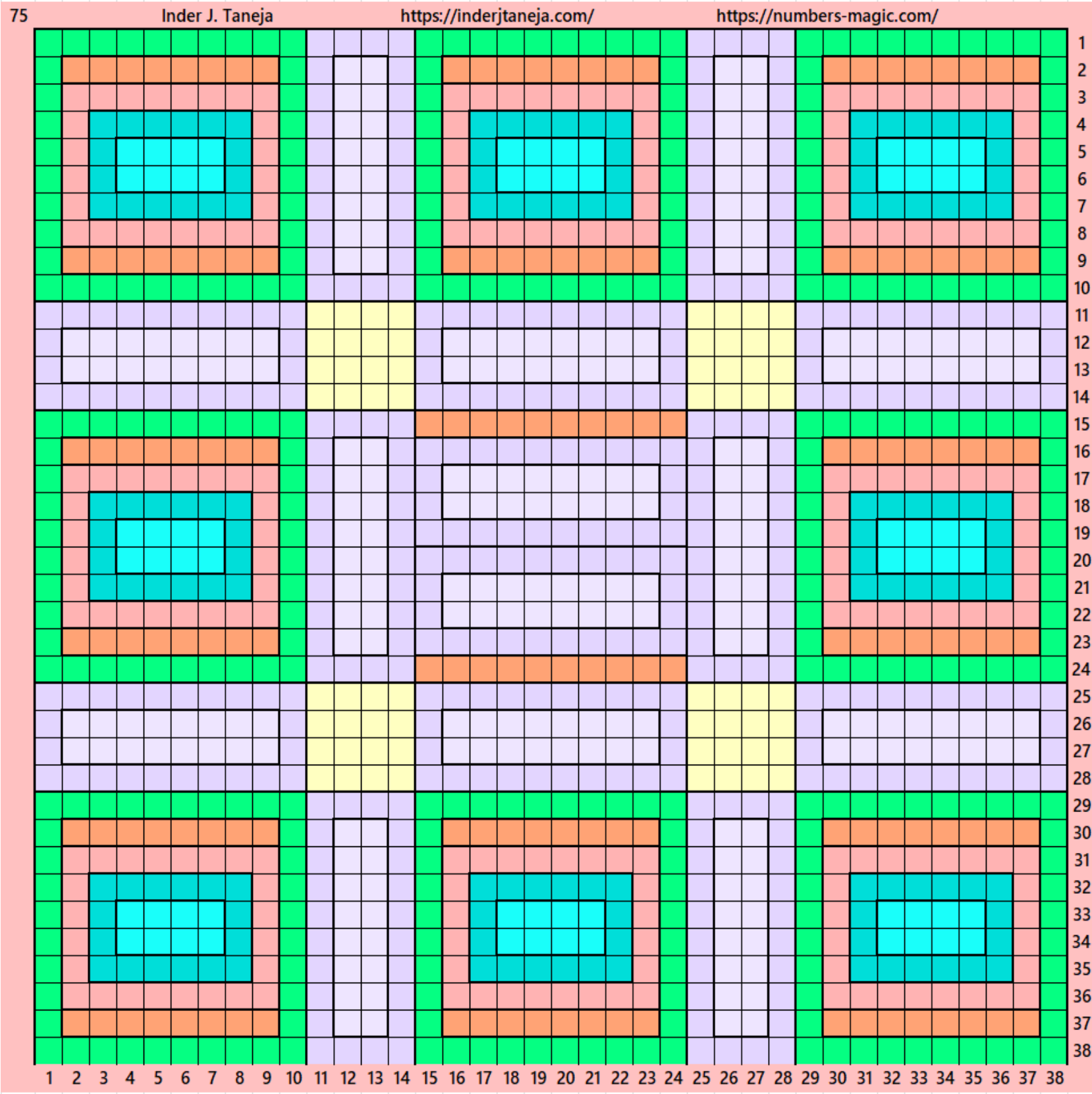


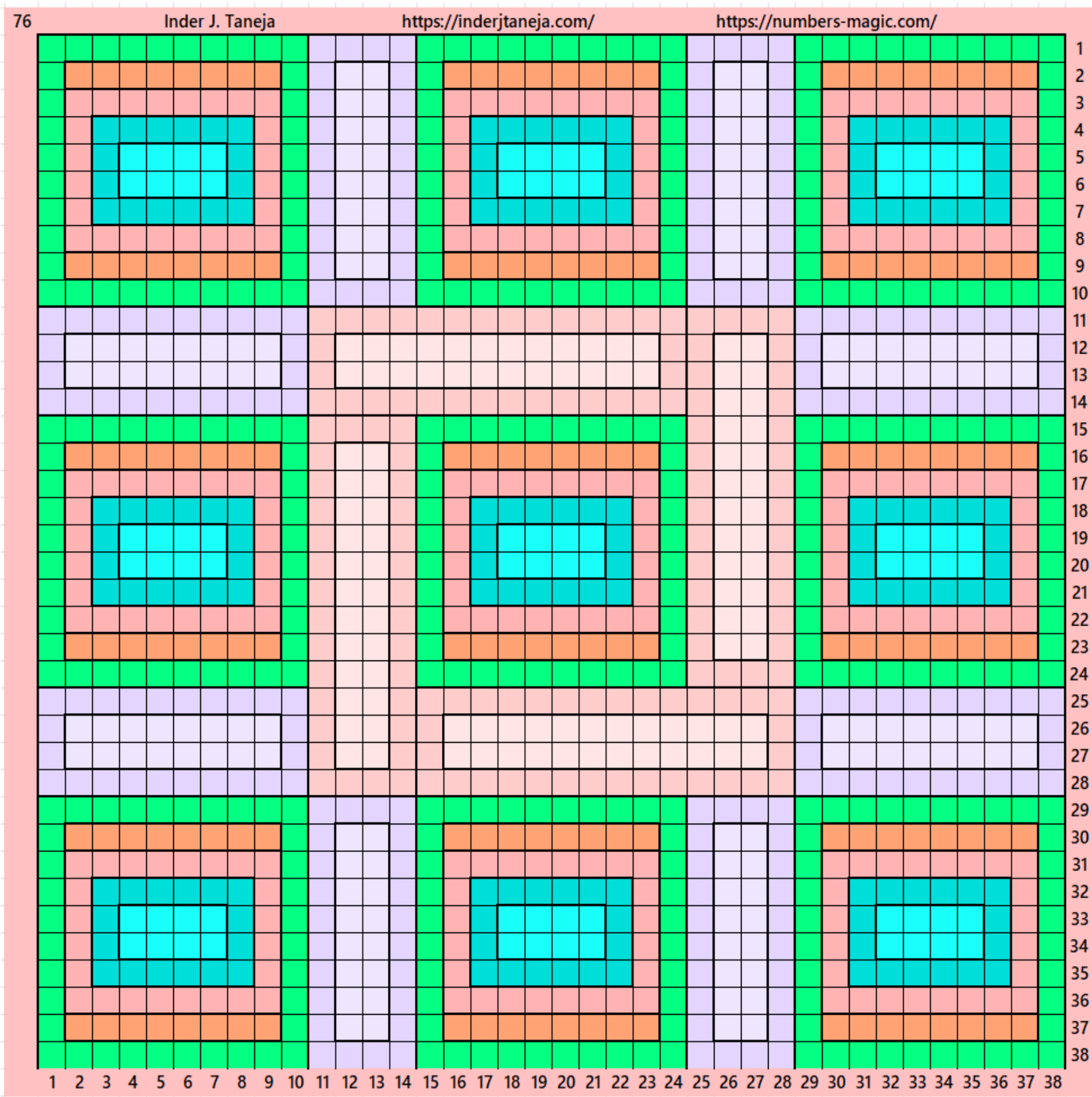


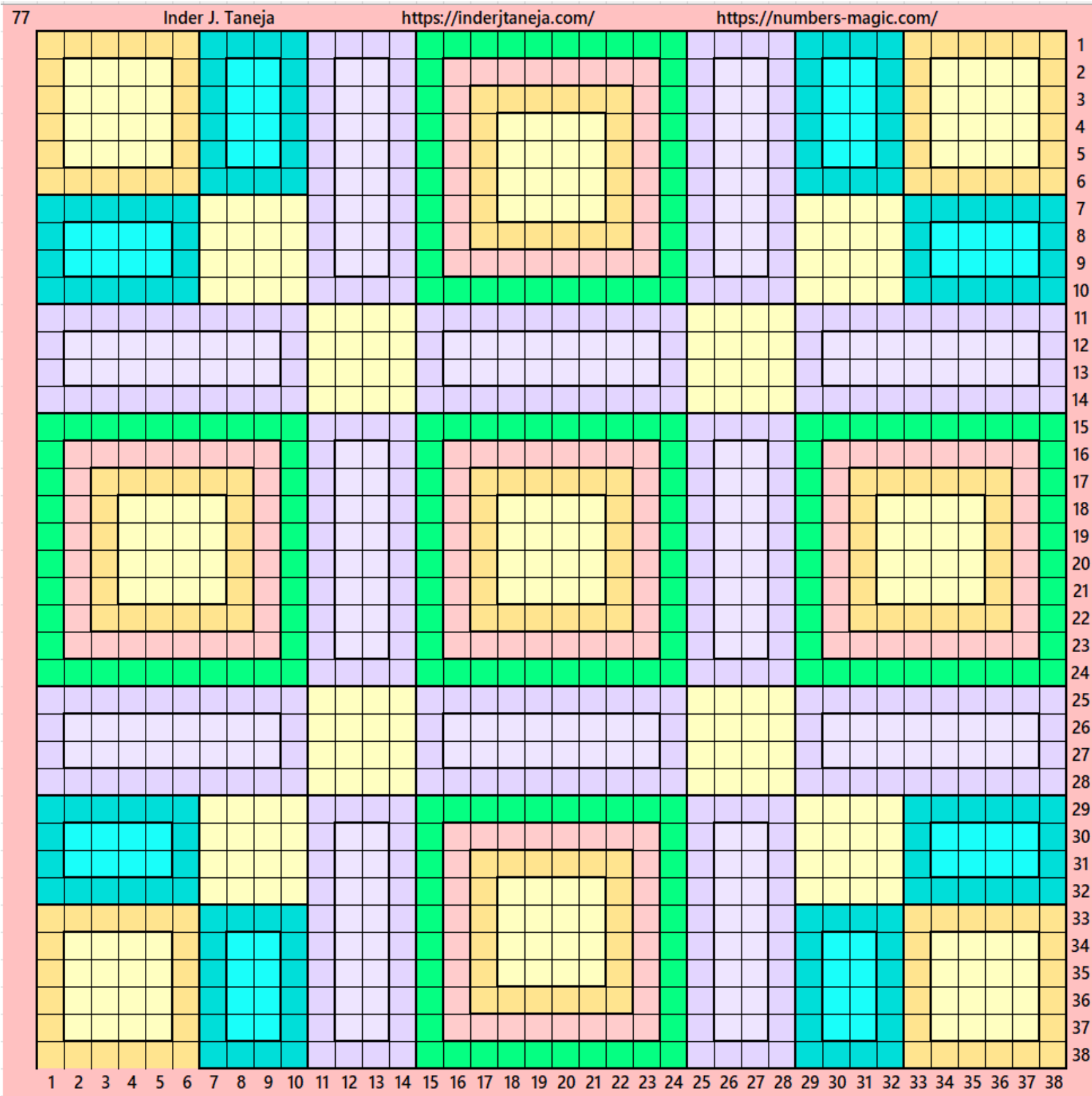


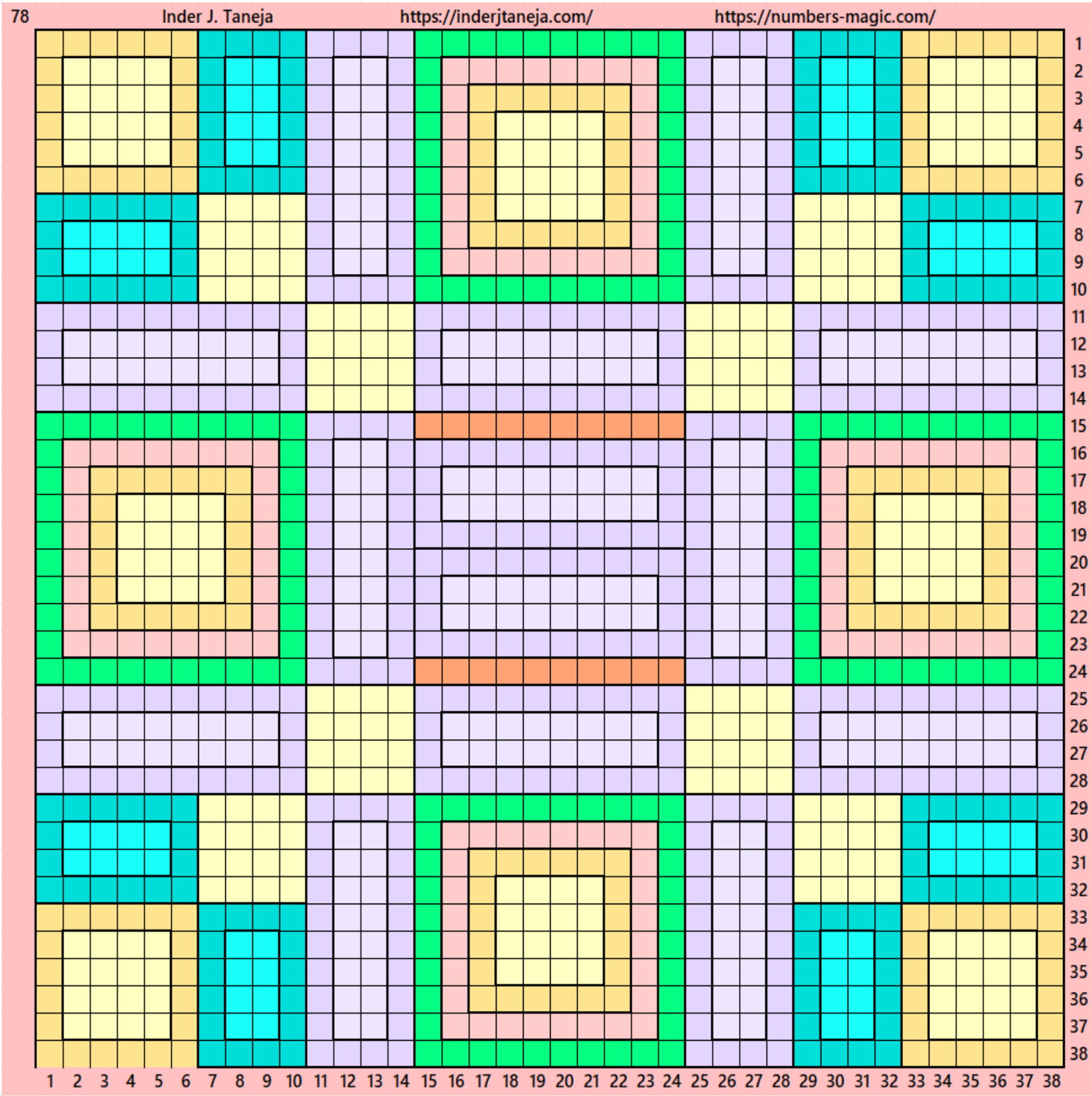


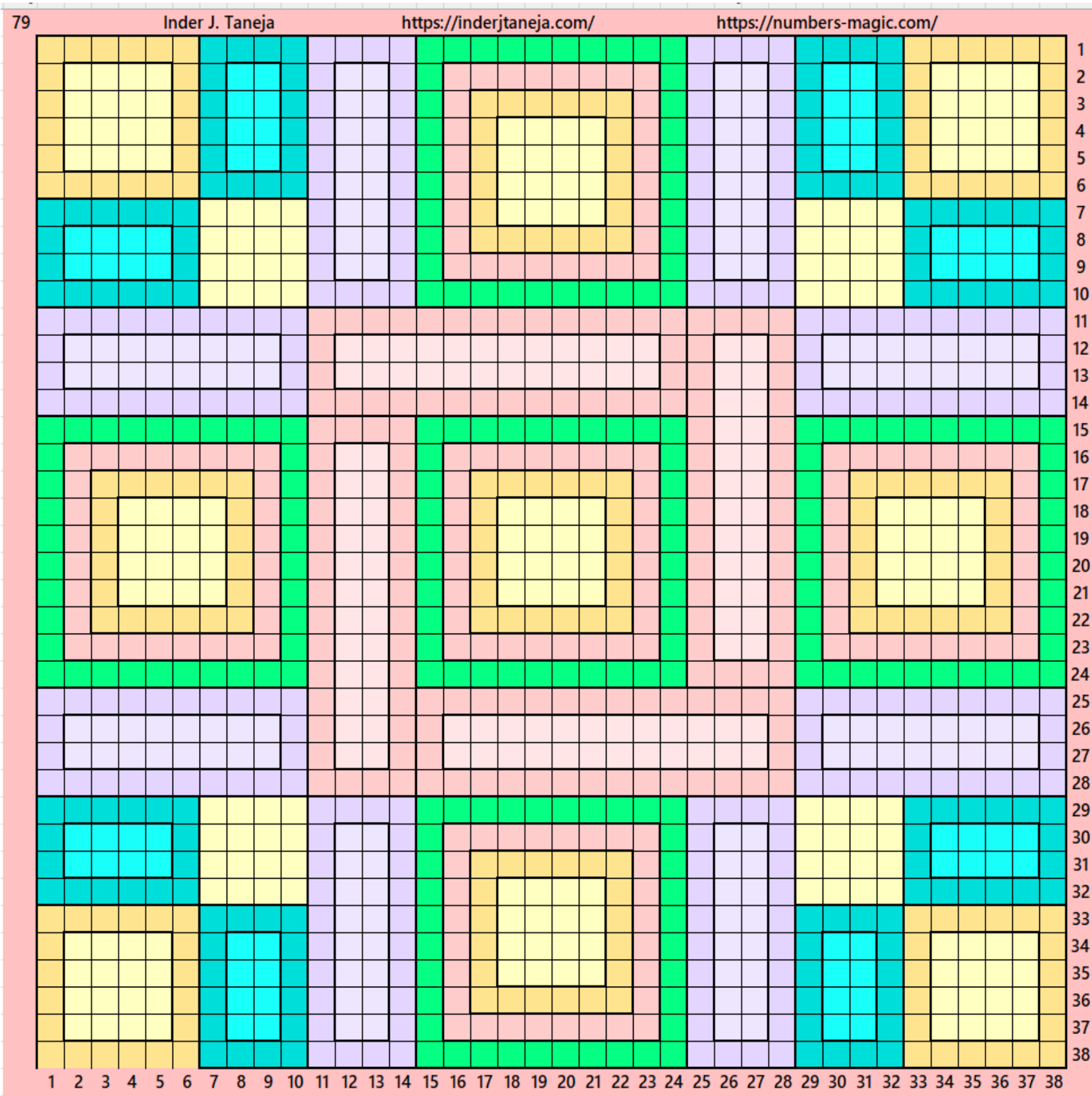


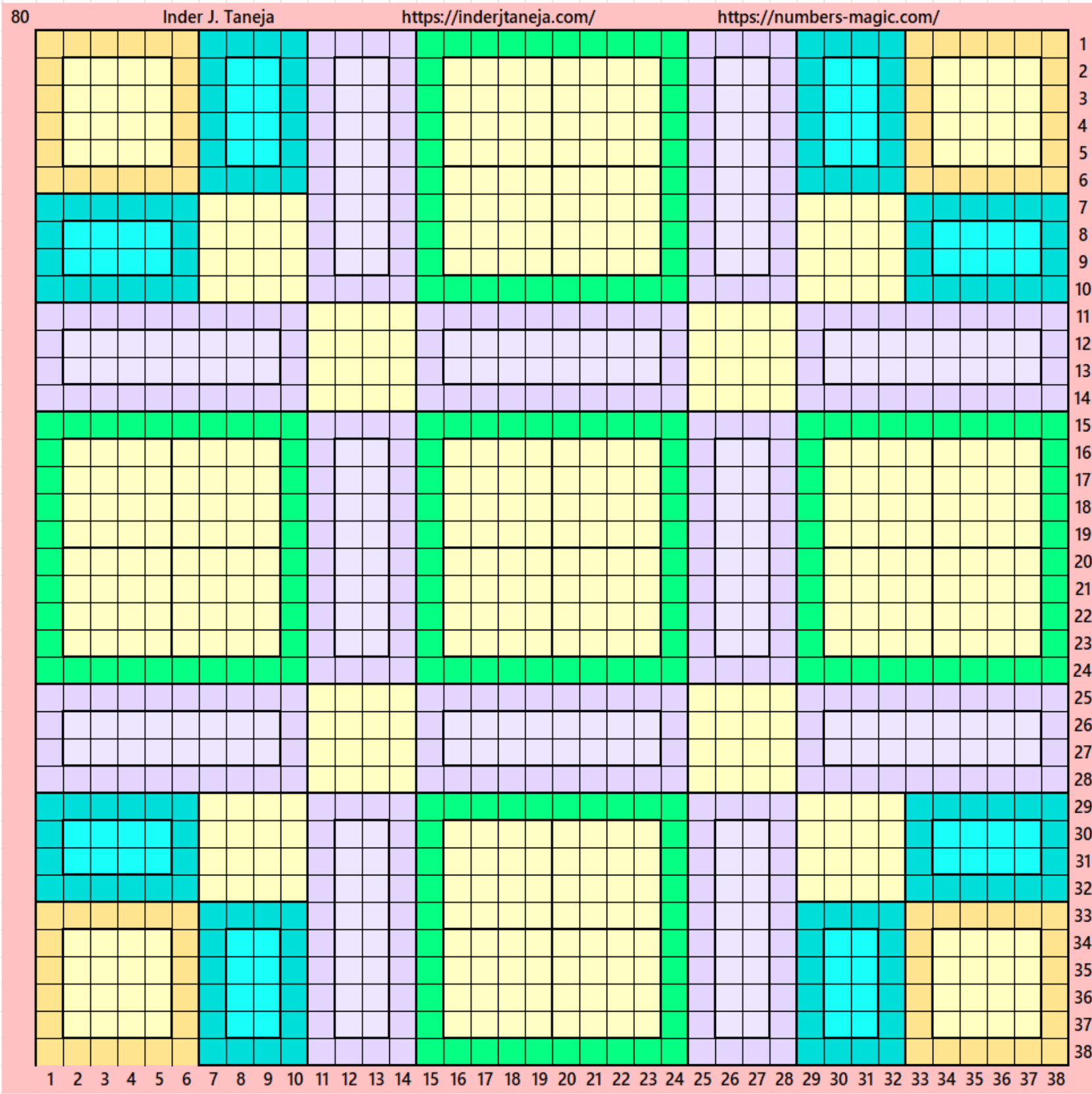


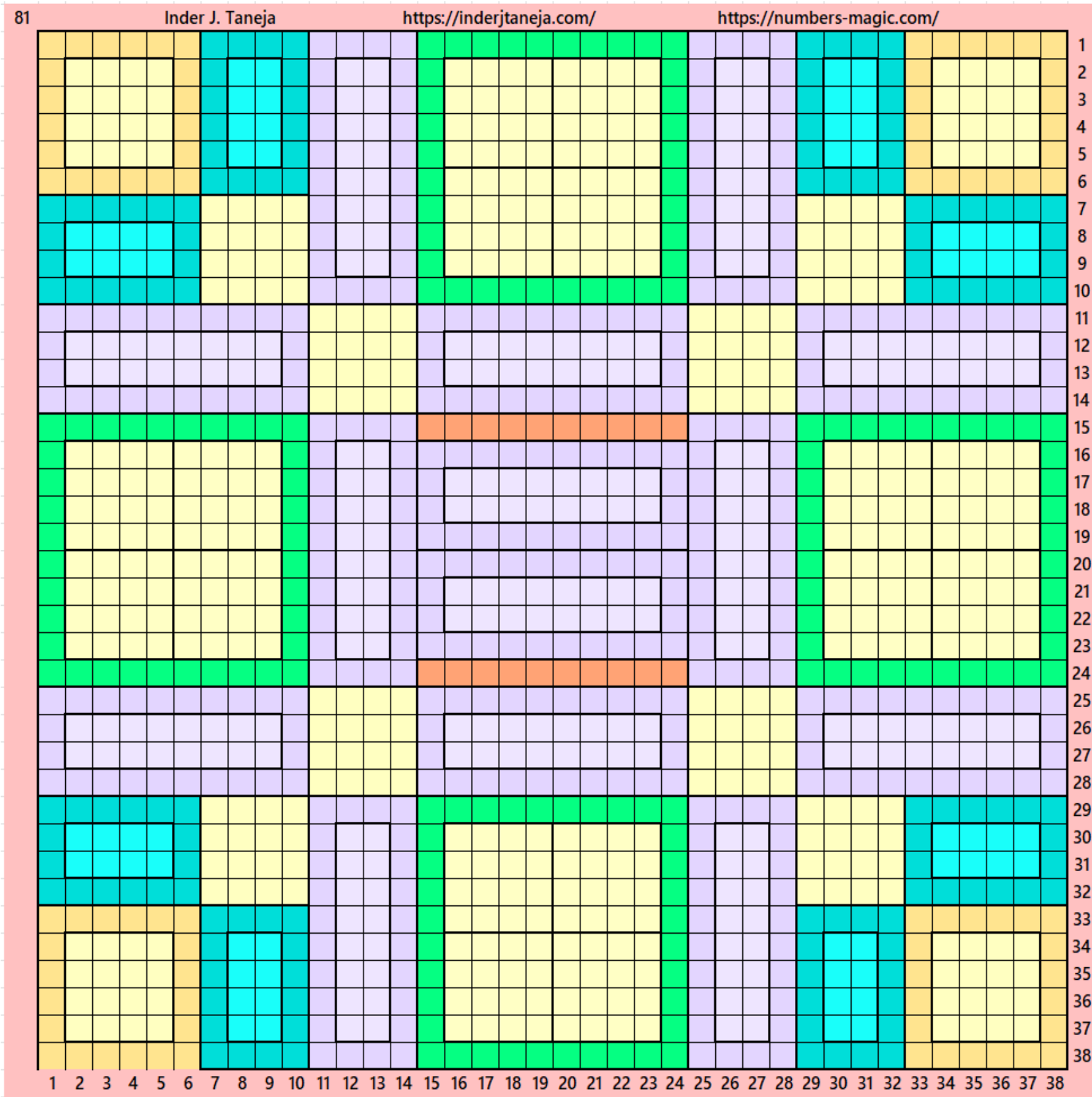


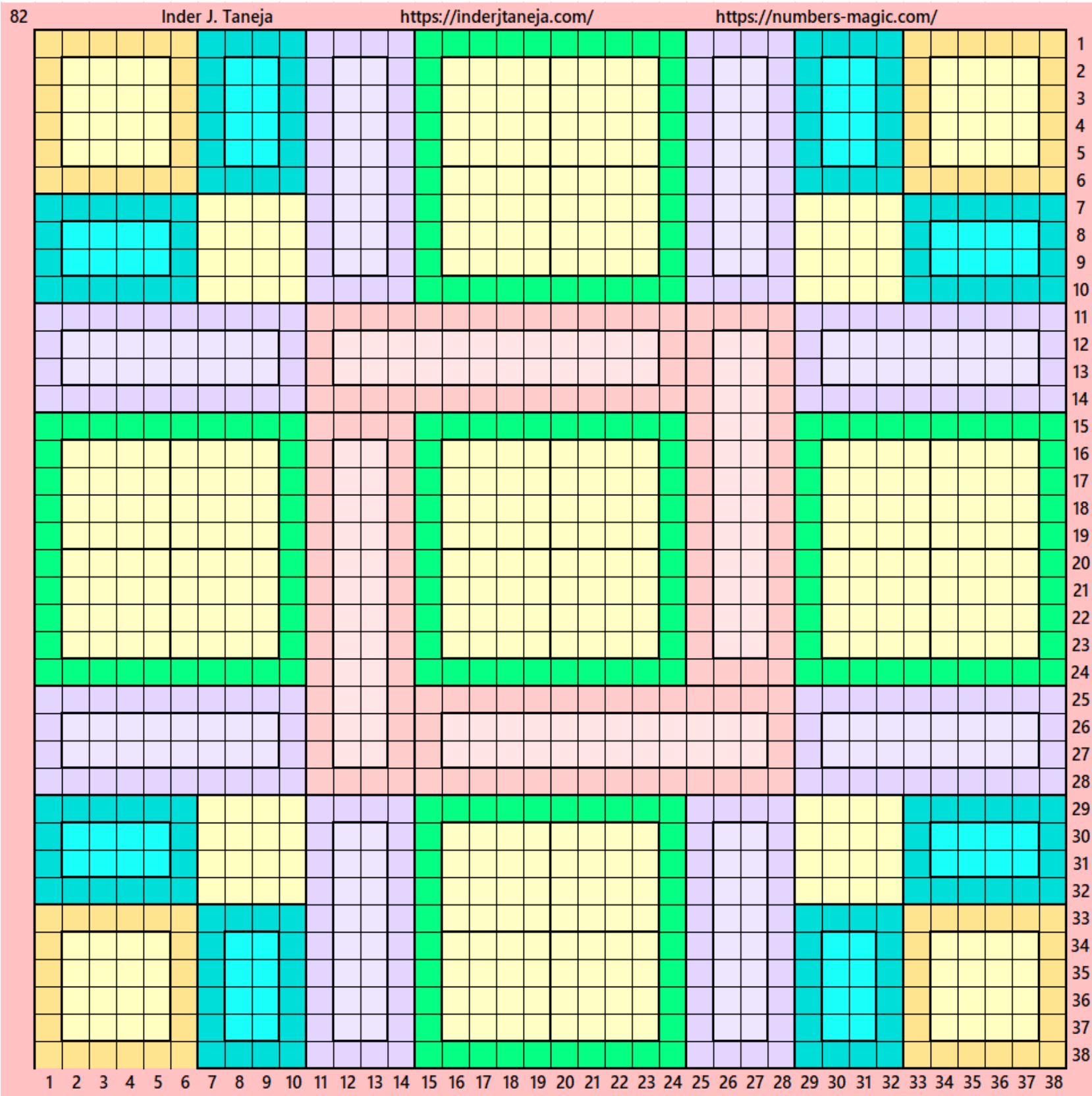








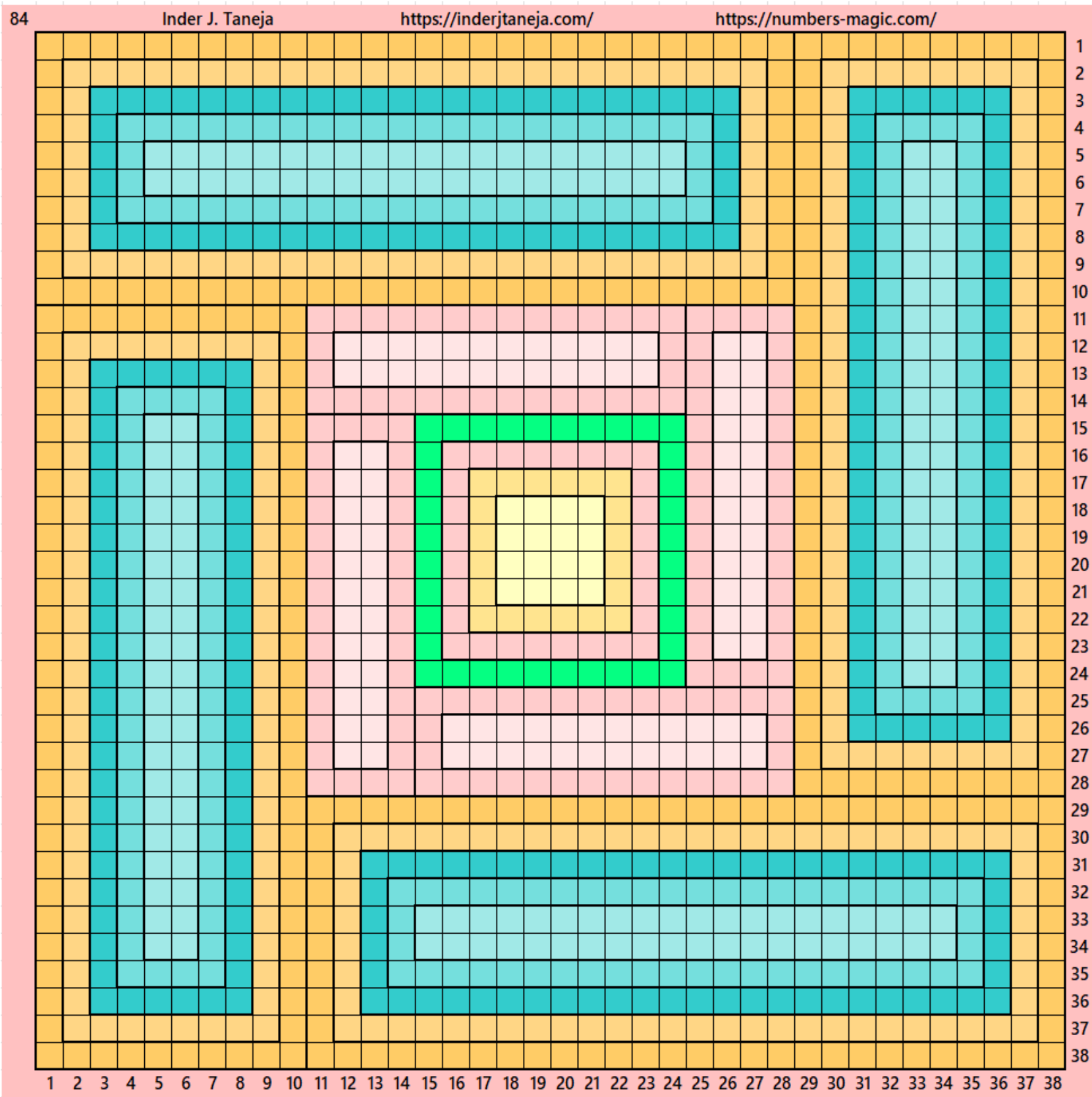


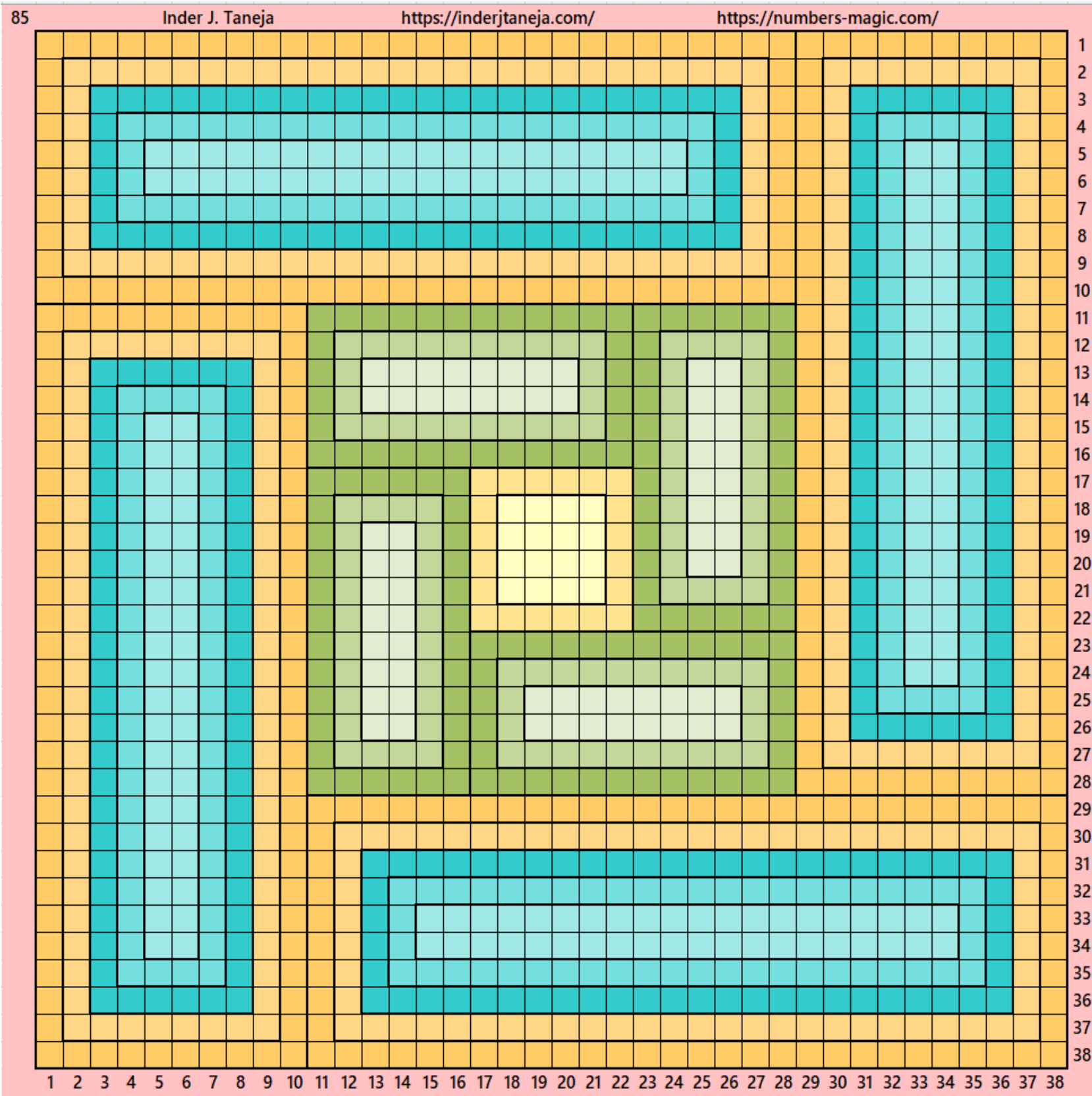


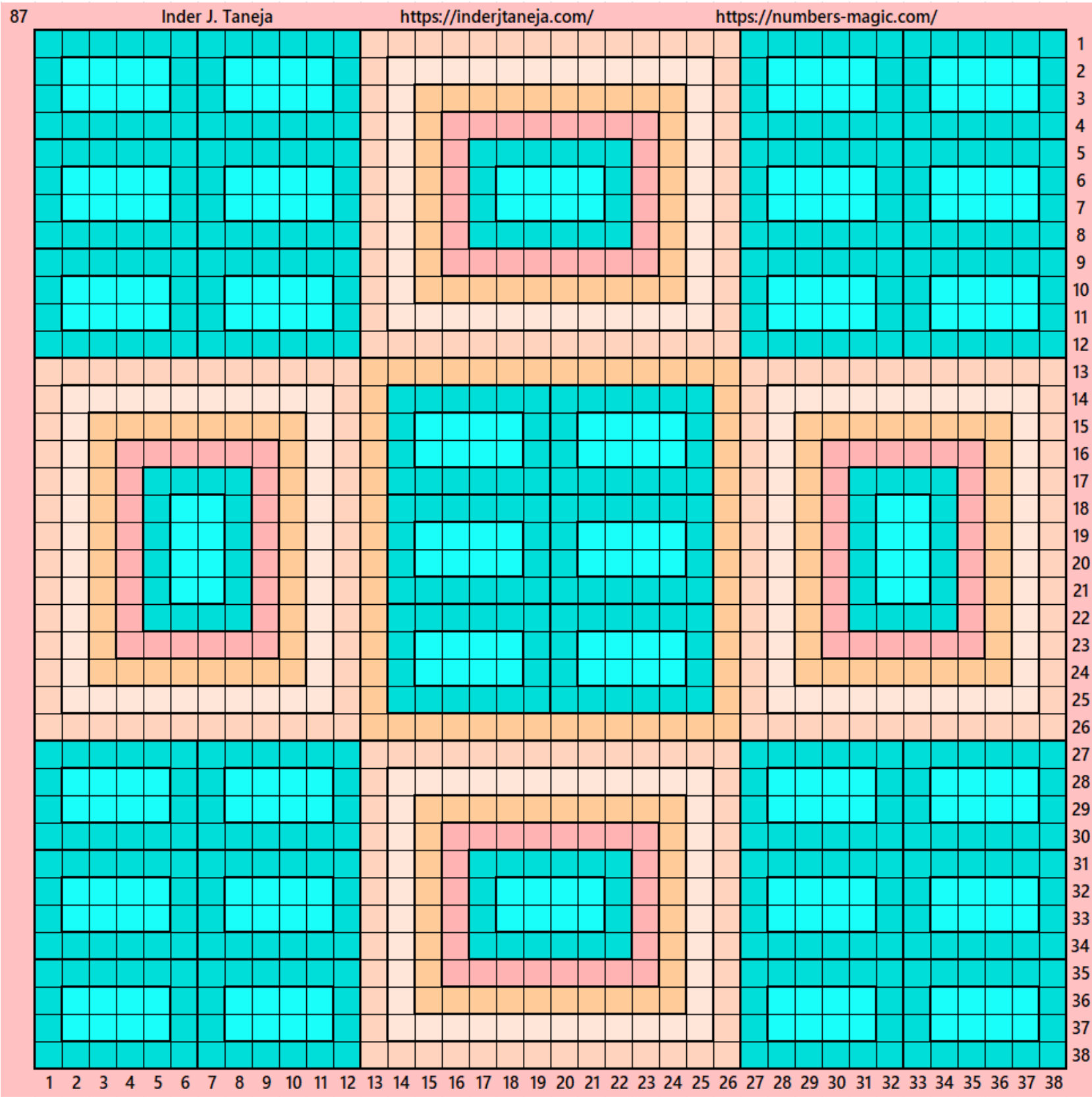
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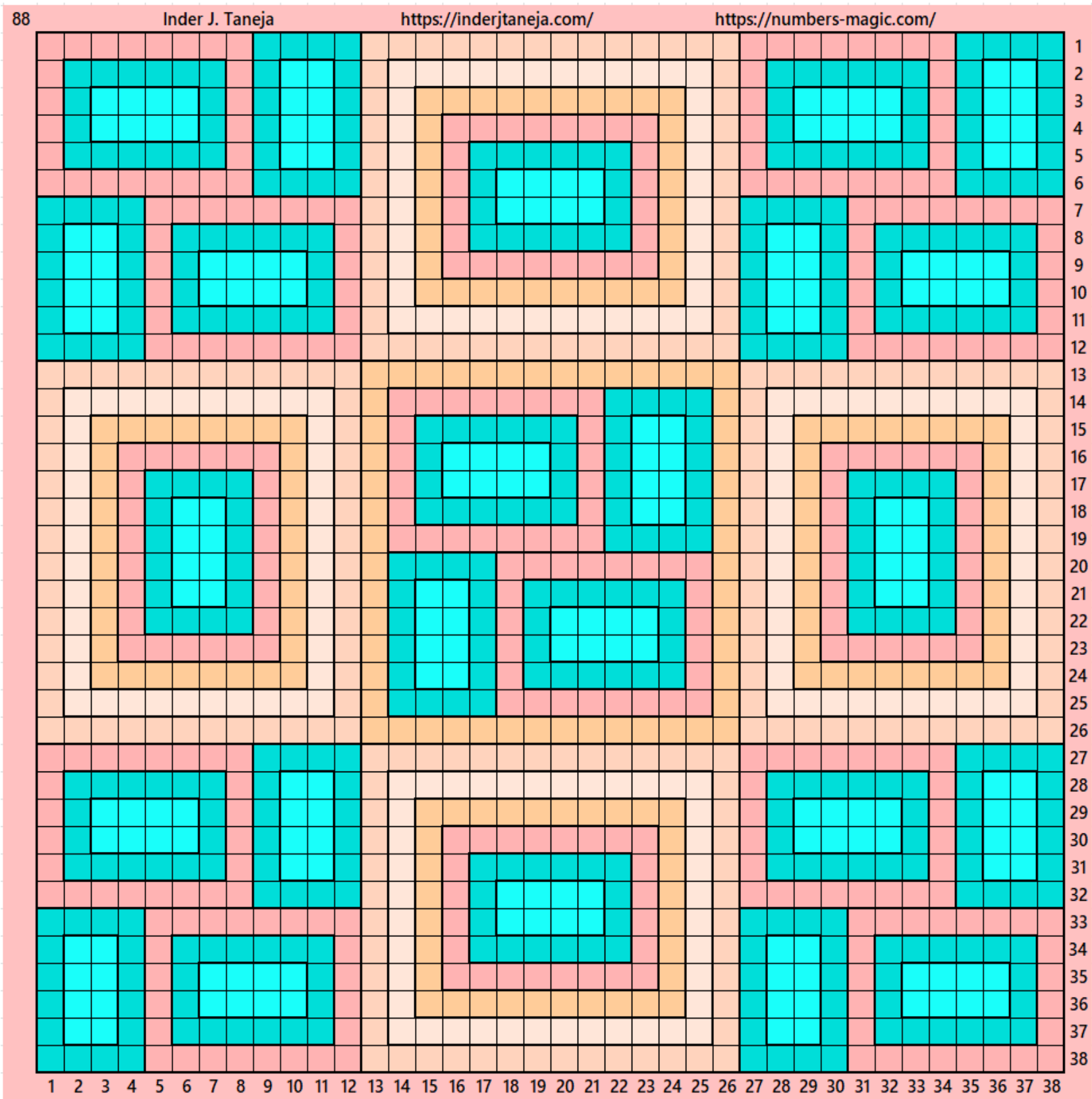
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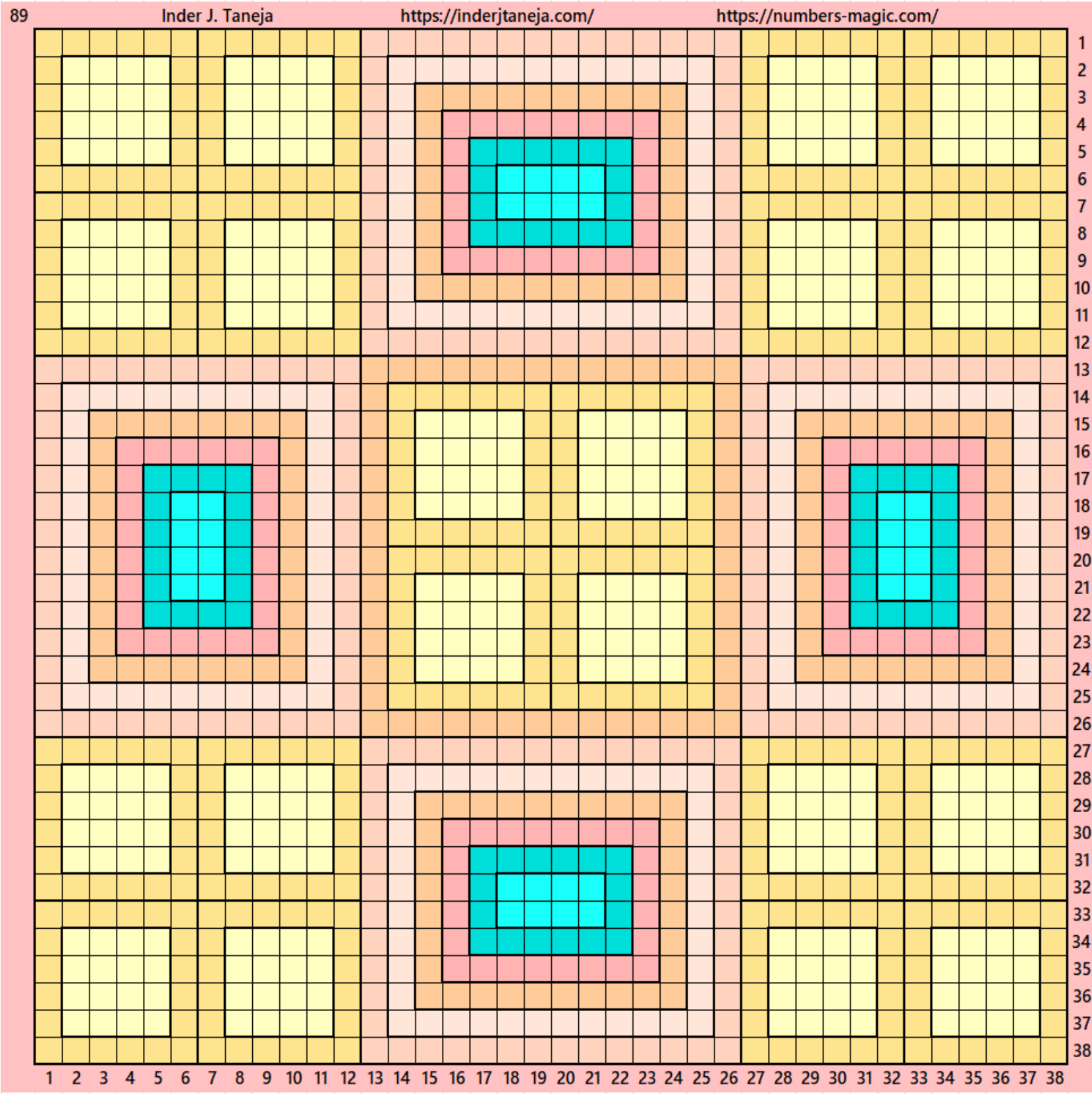
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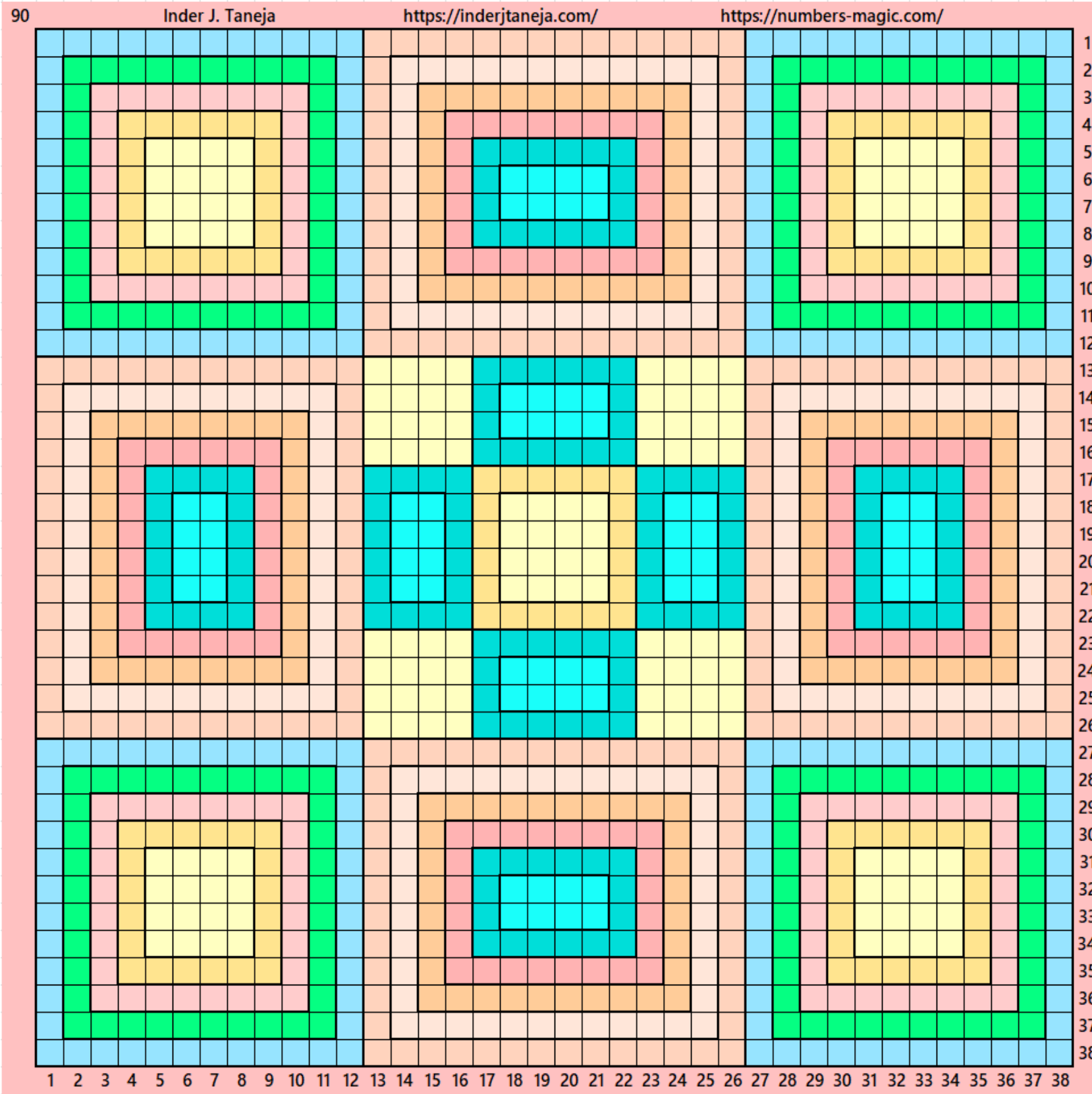


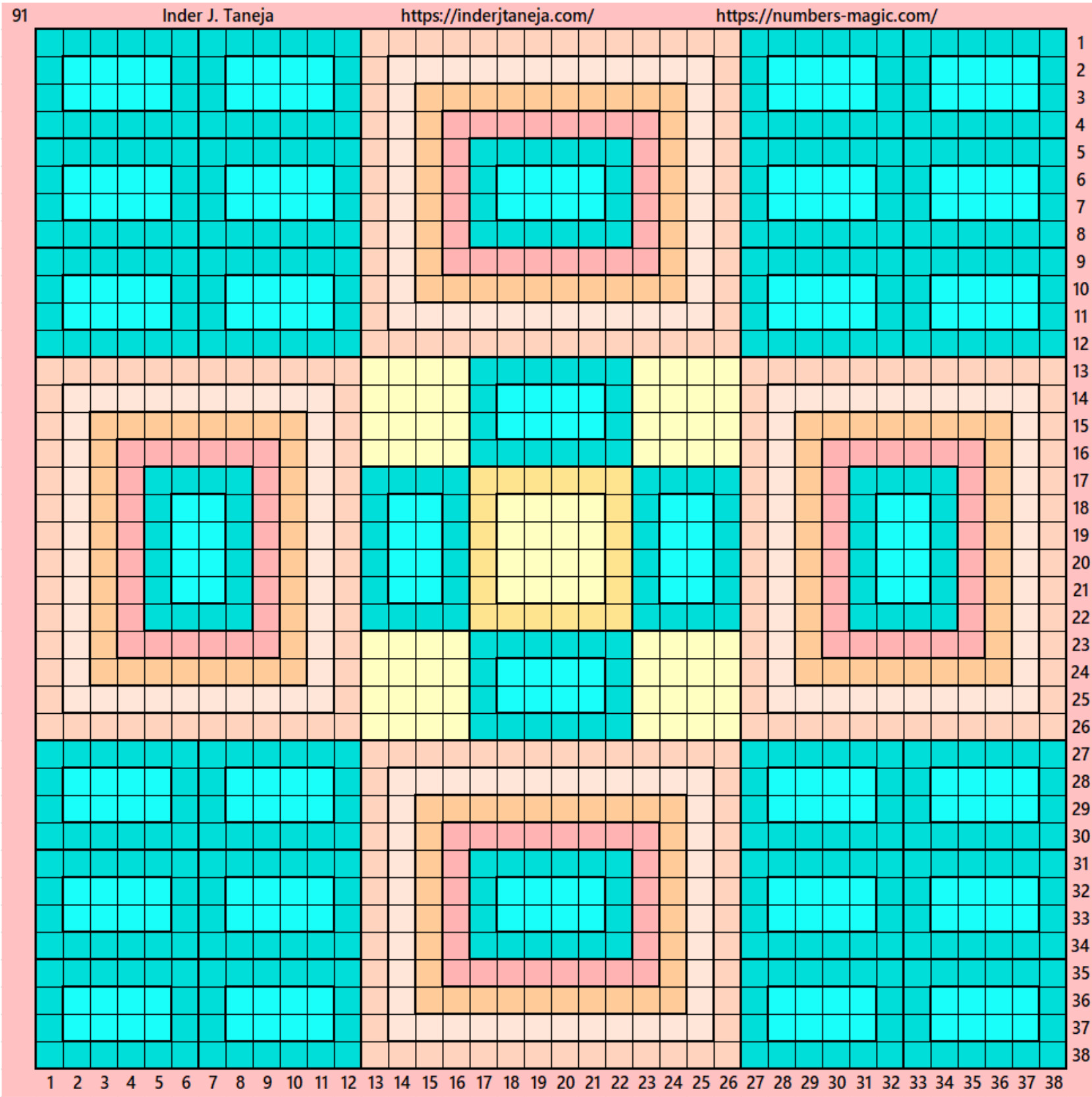


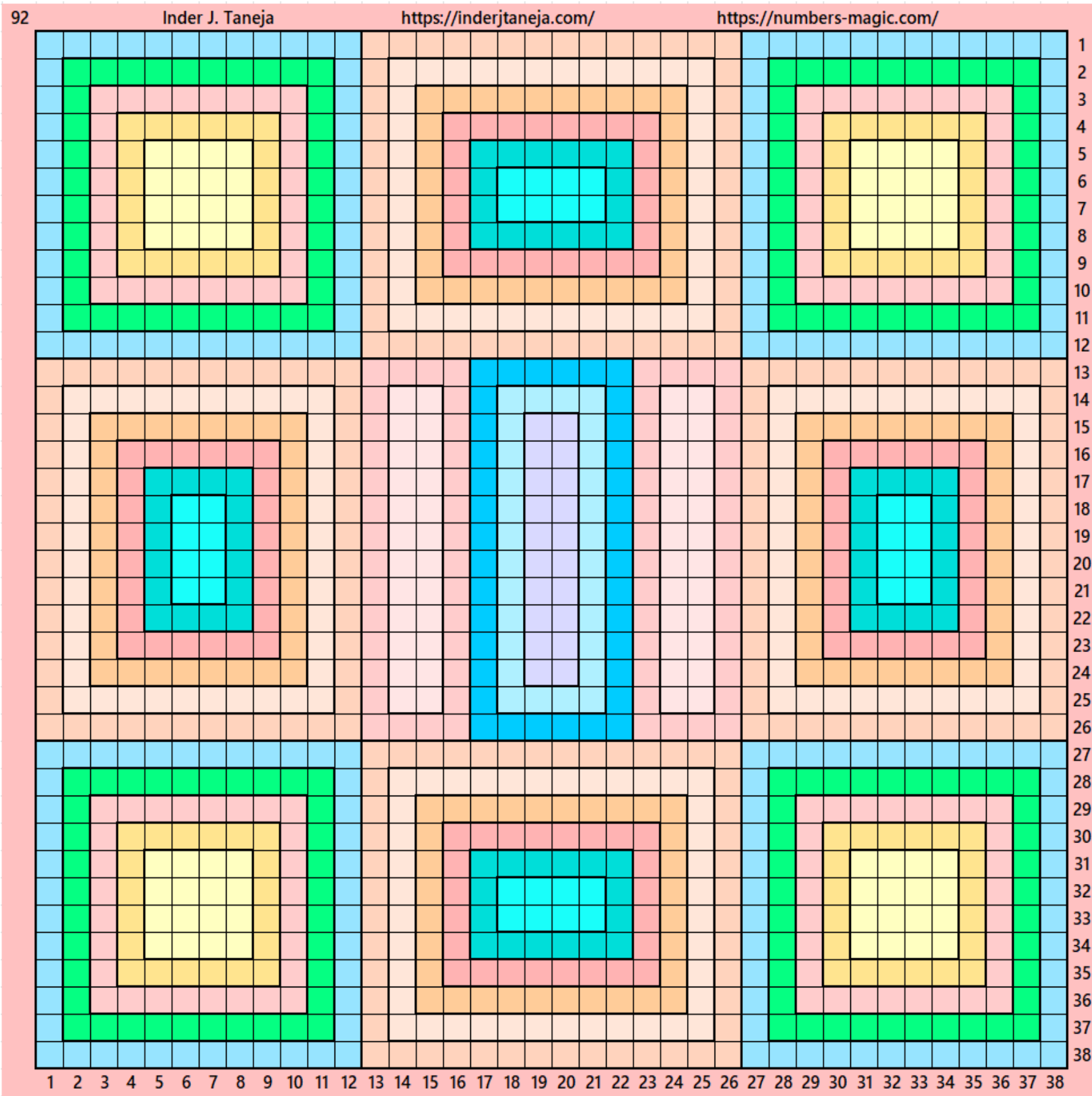




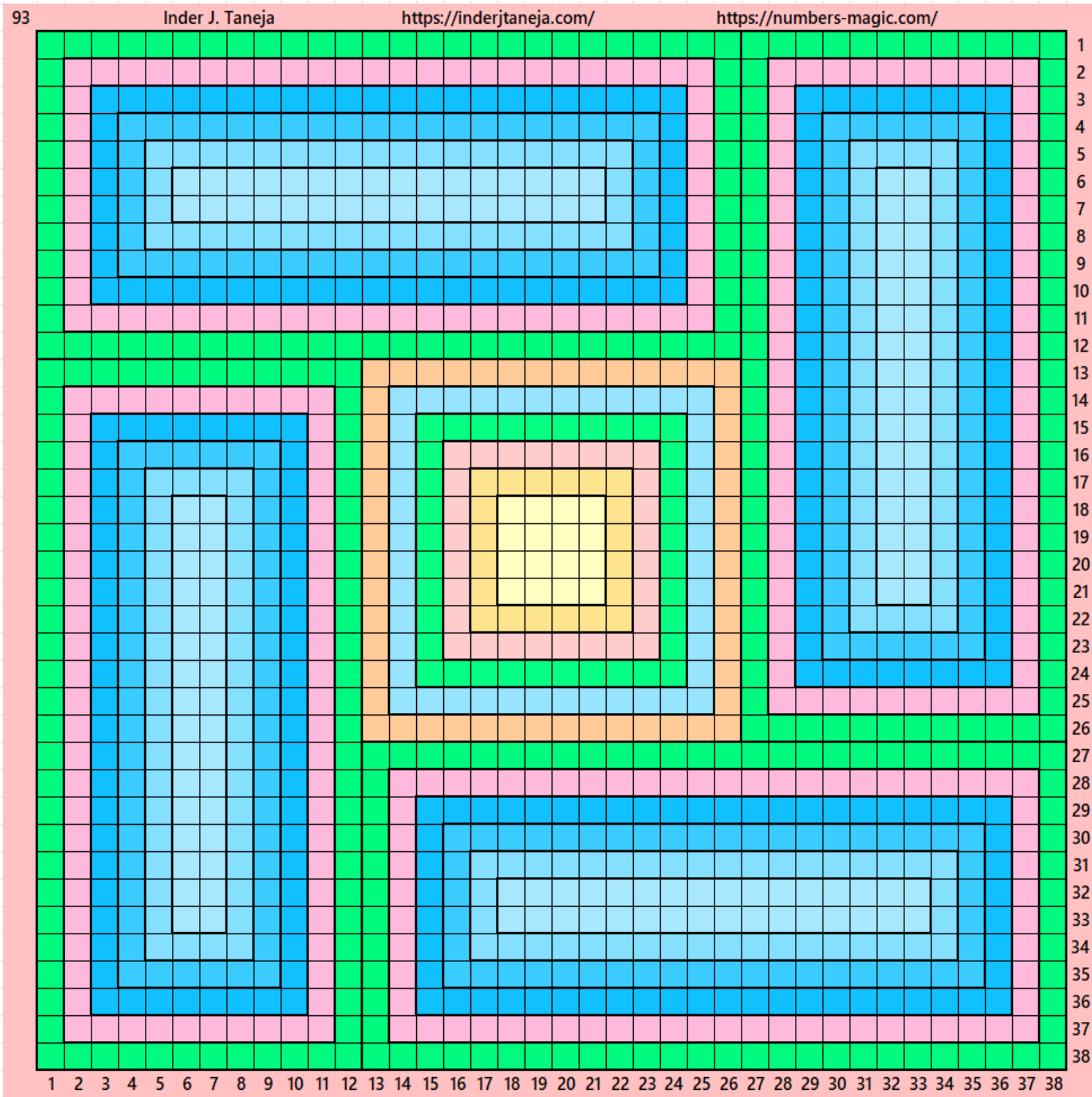


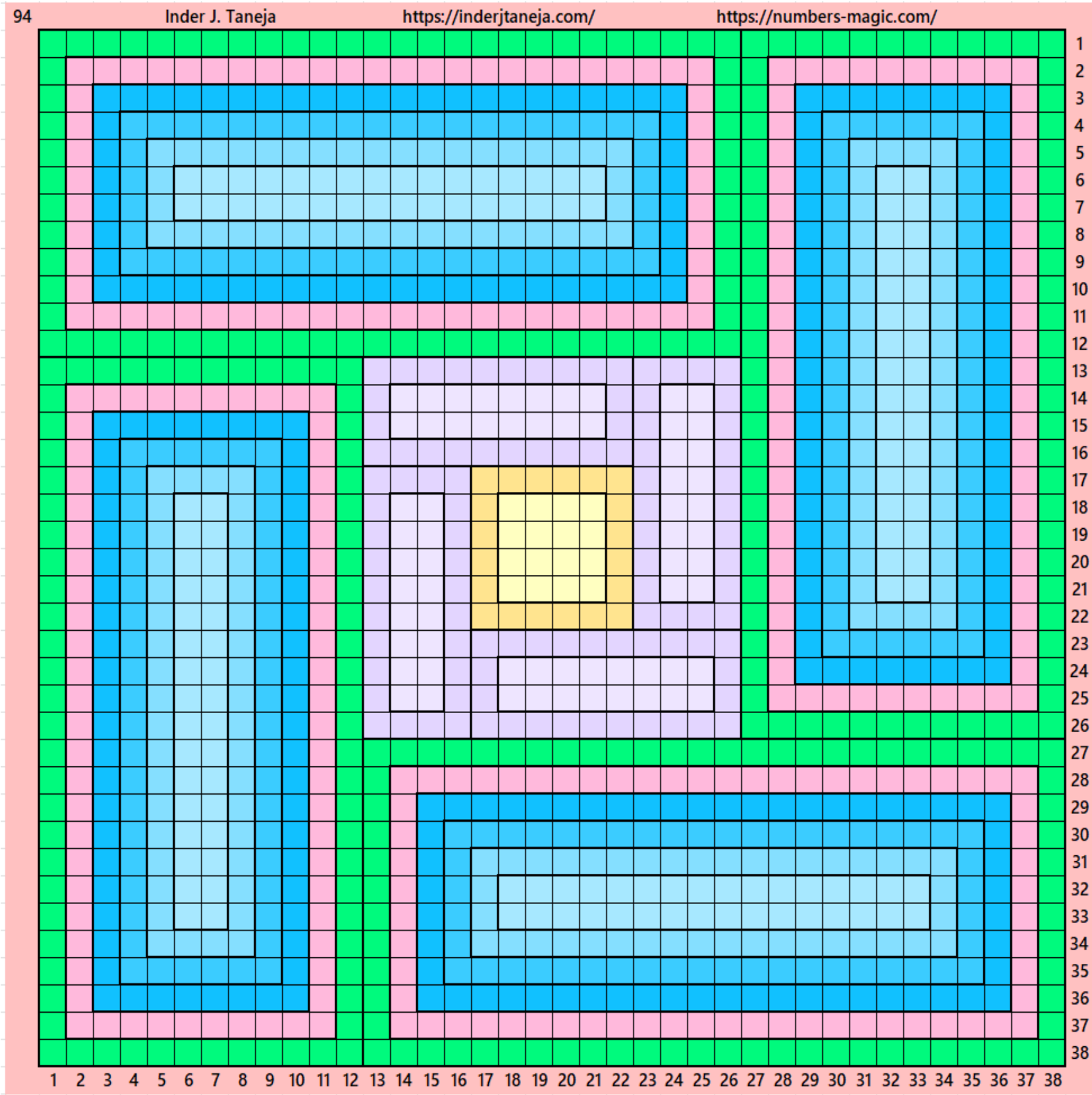




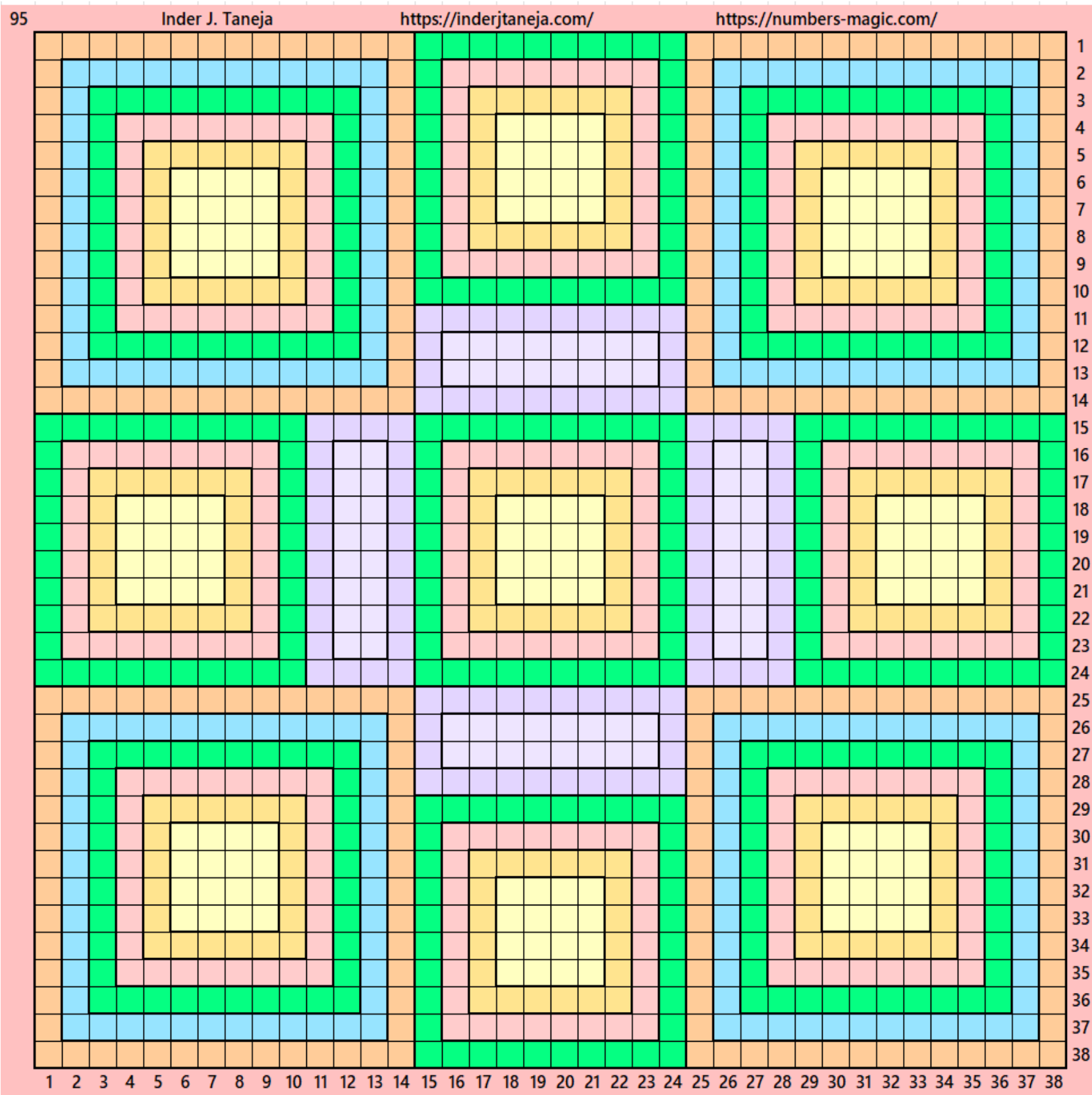


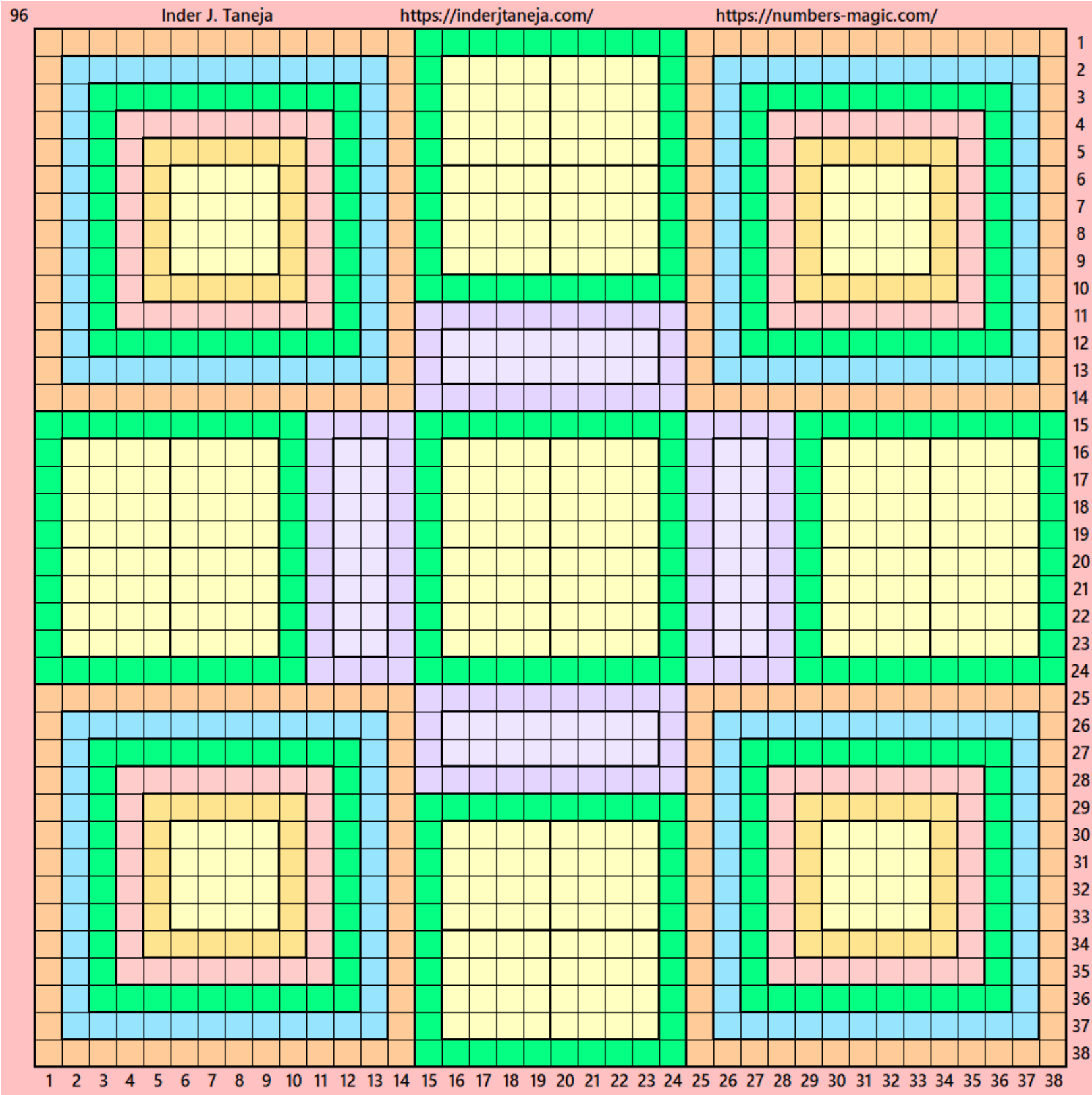
2.10 Closed Border of Order 12

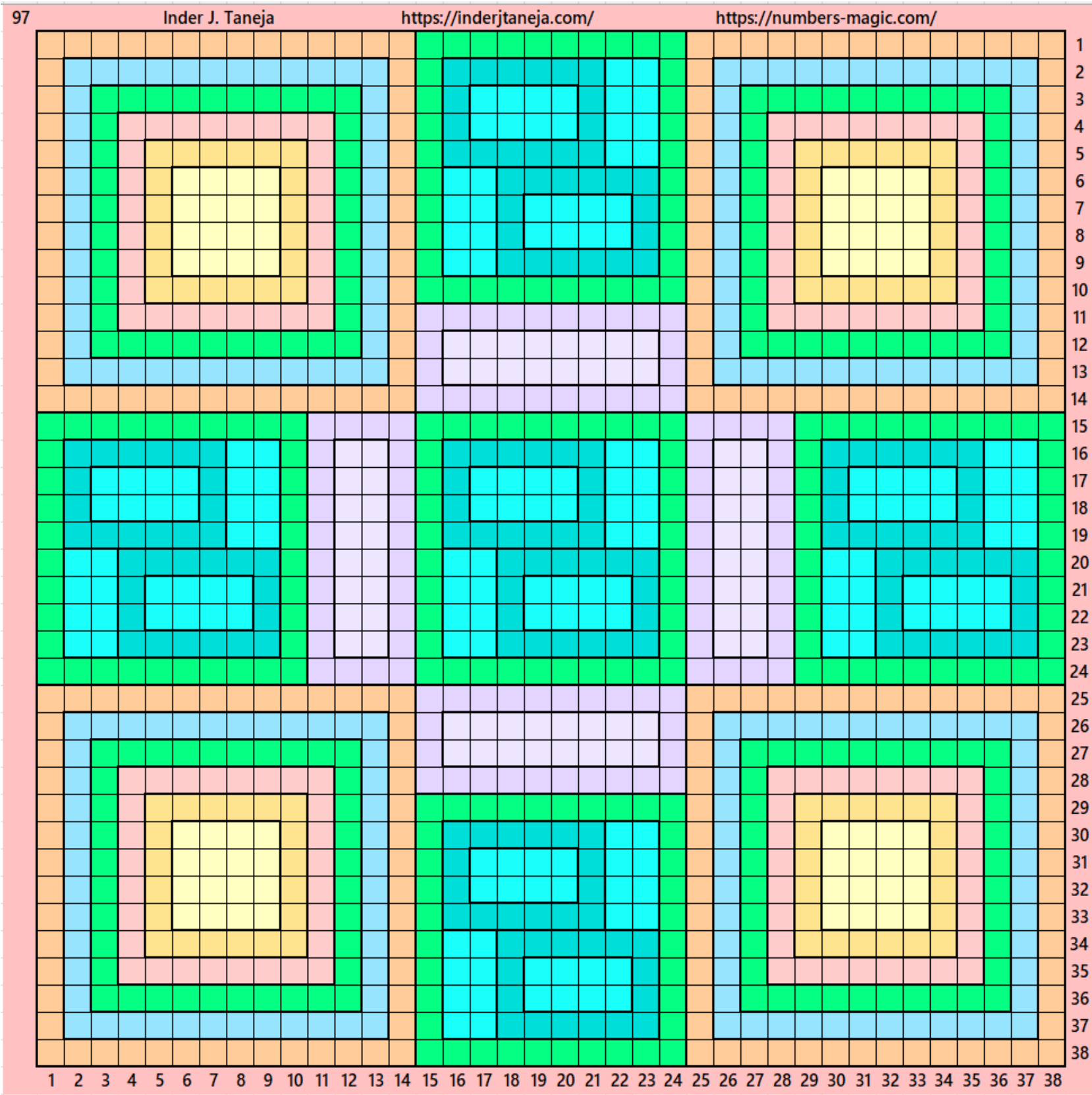


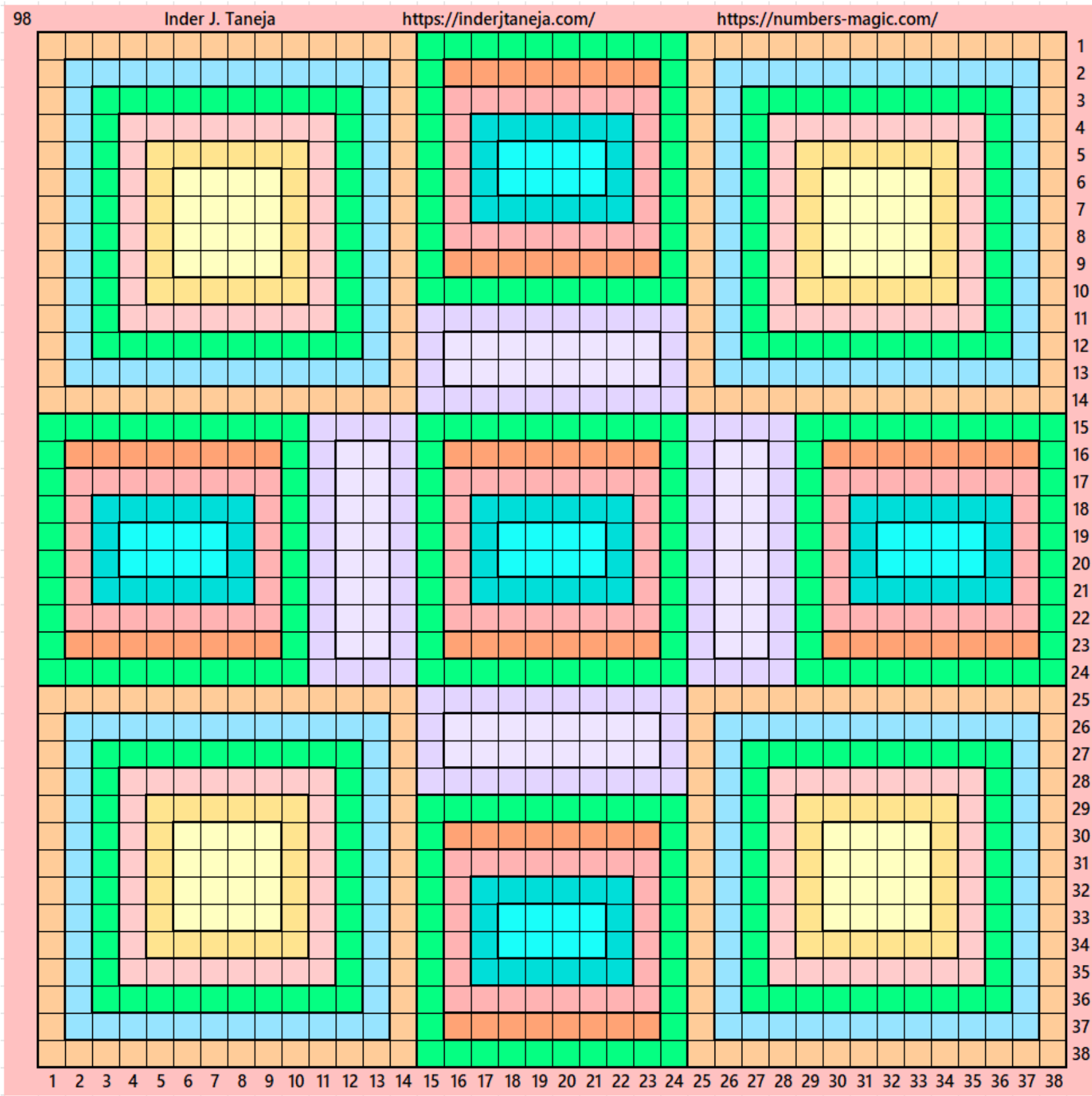


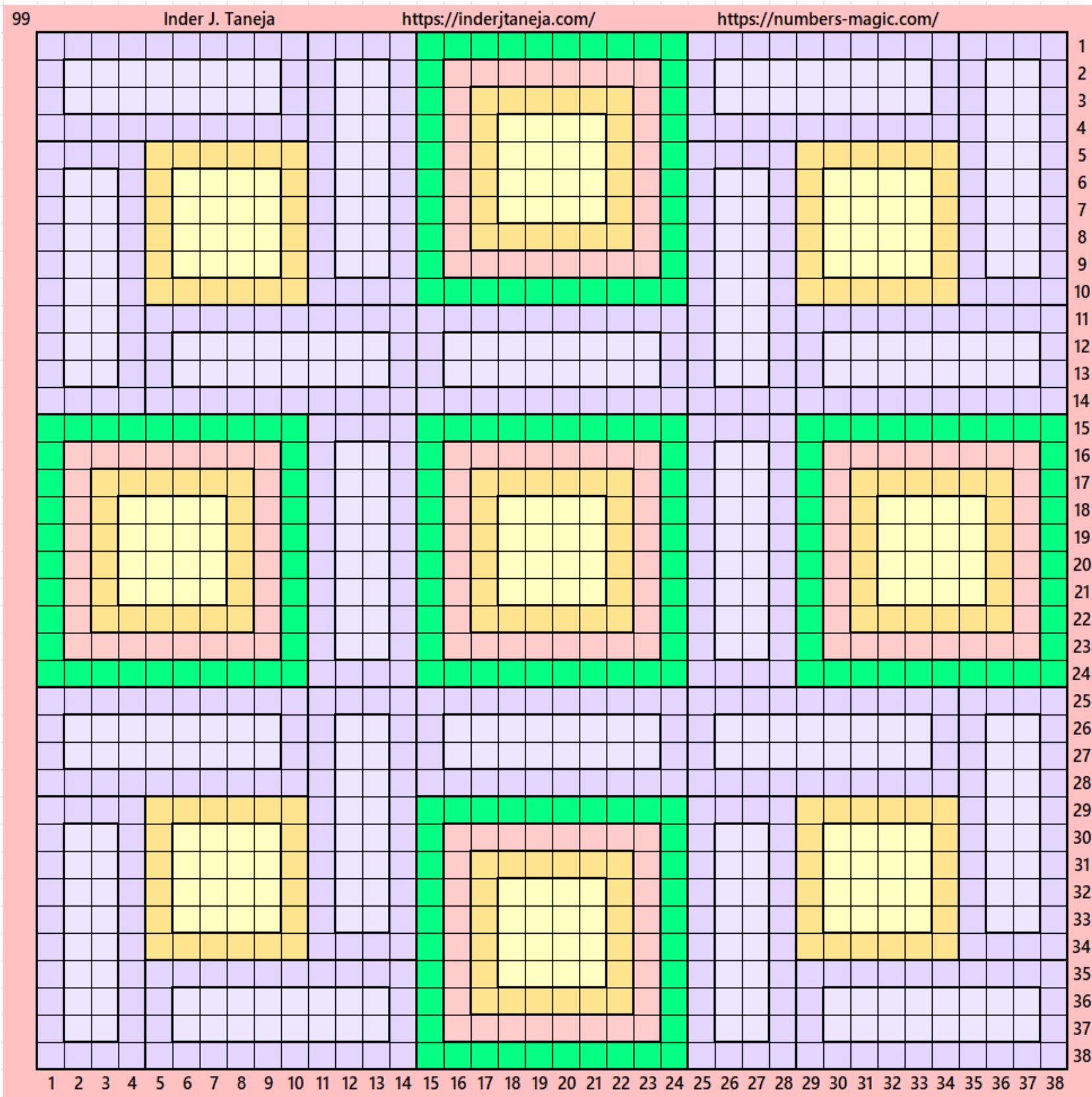
2.11 Cornered Magic Squares of Order 14

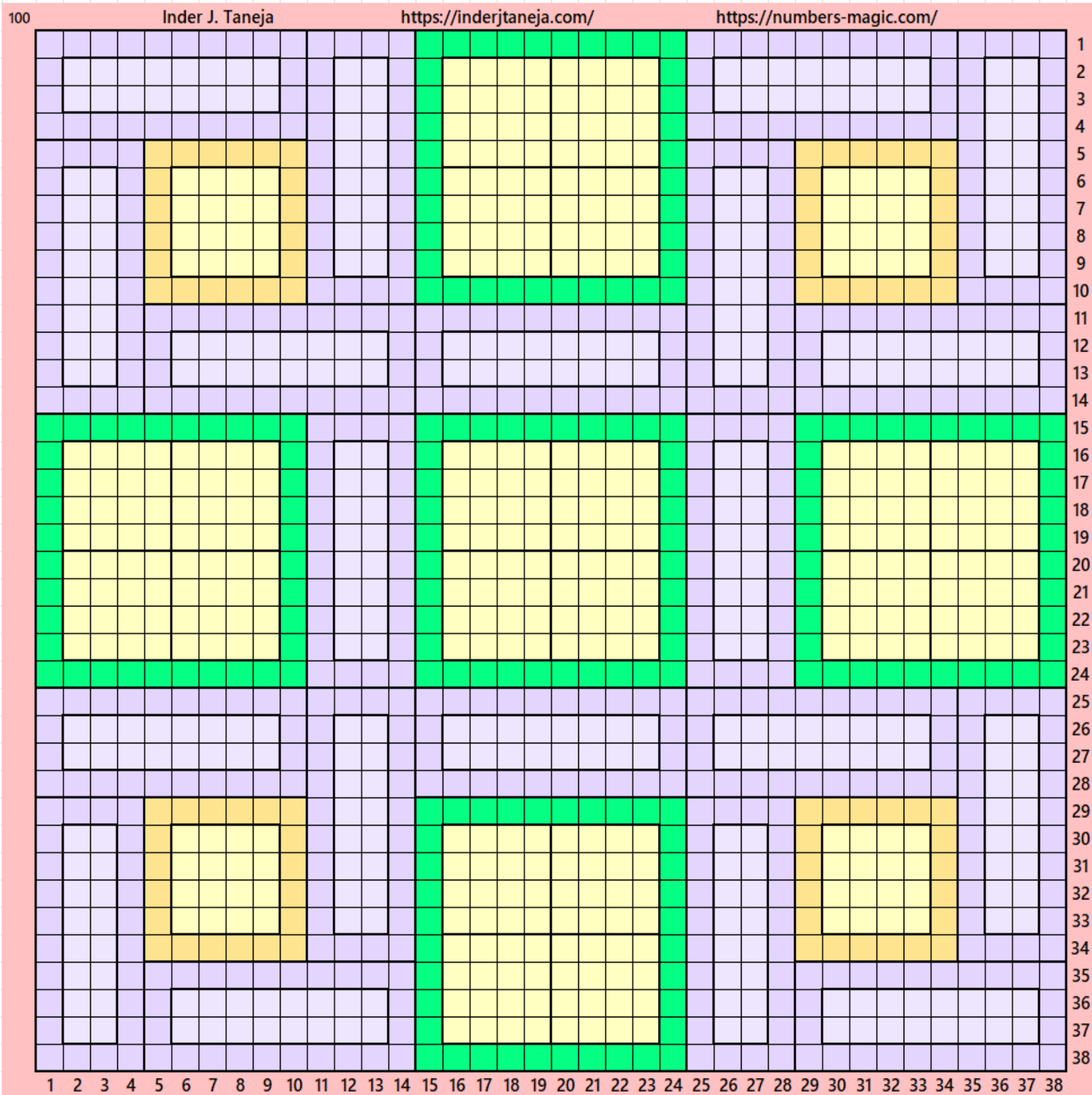


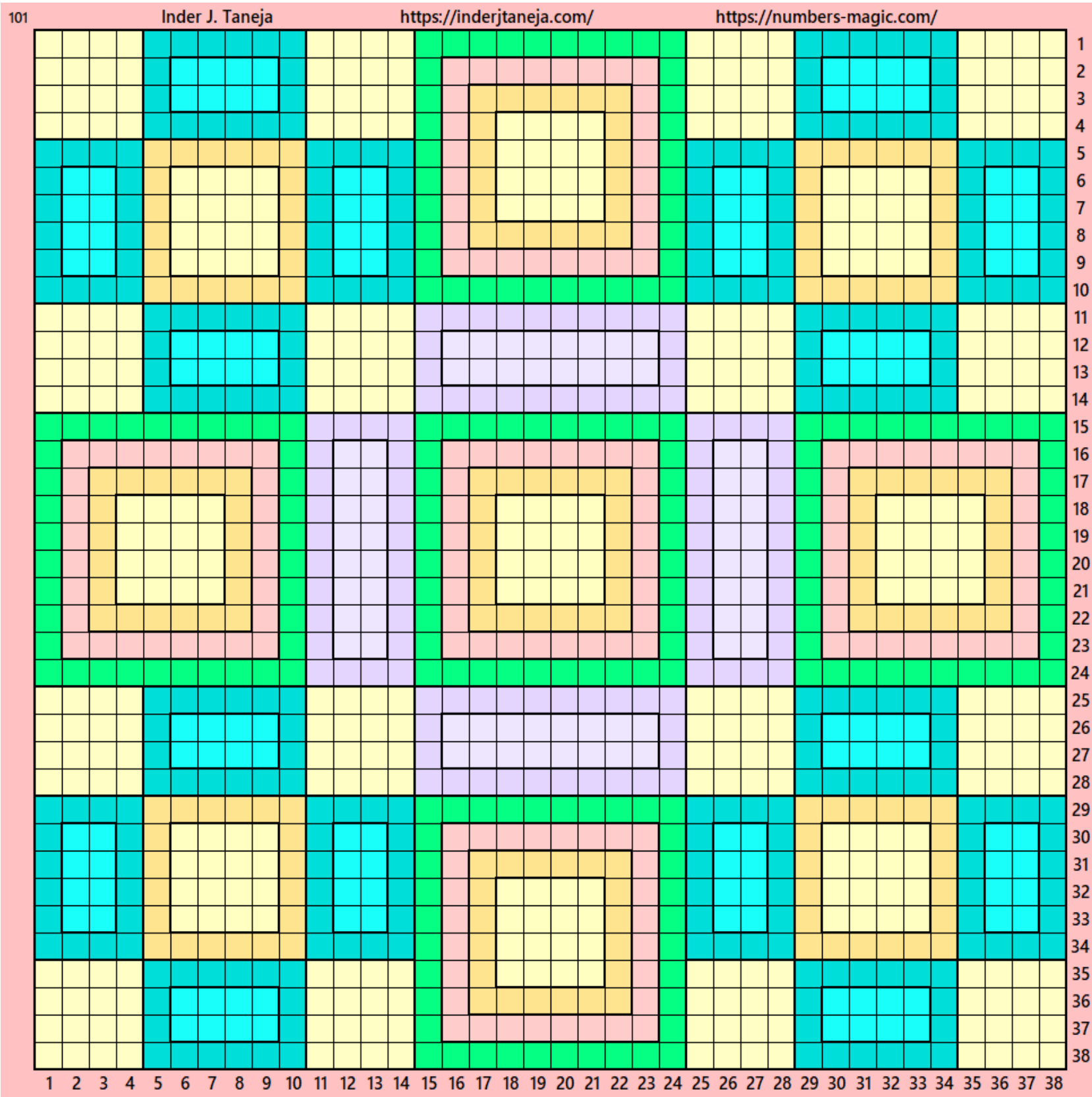


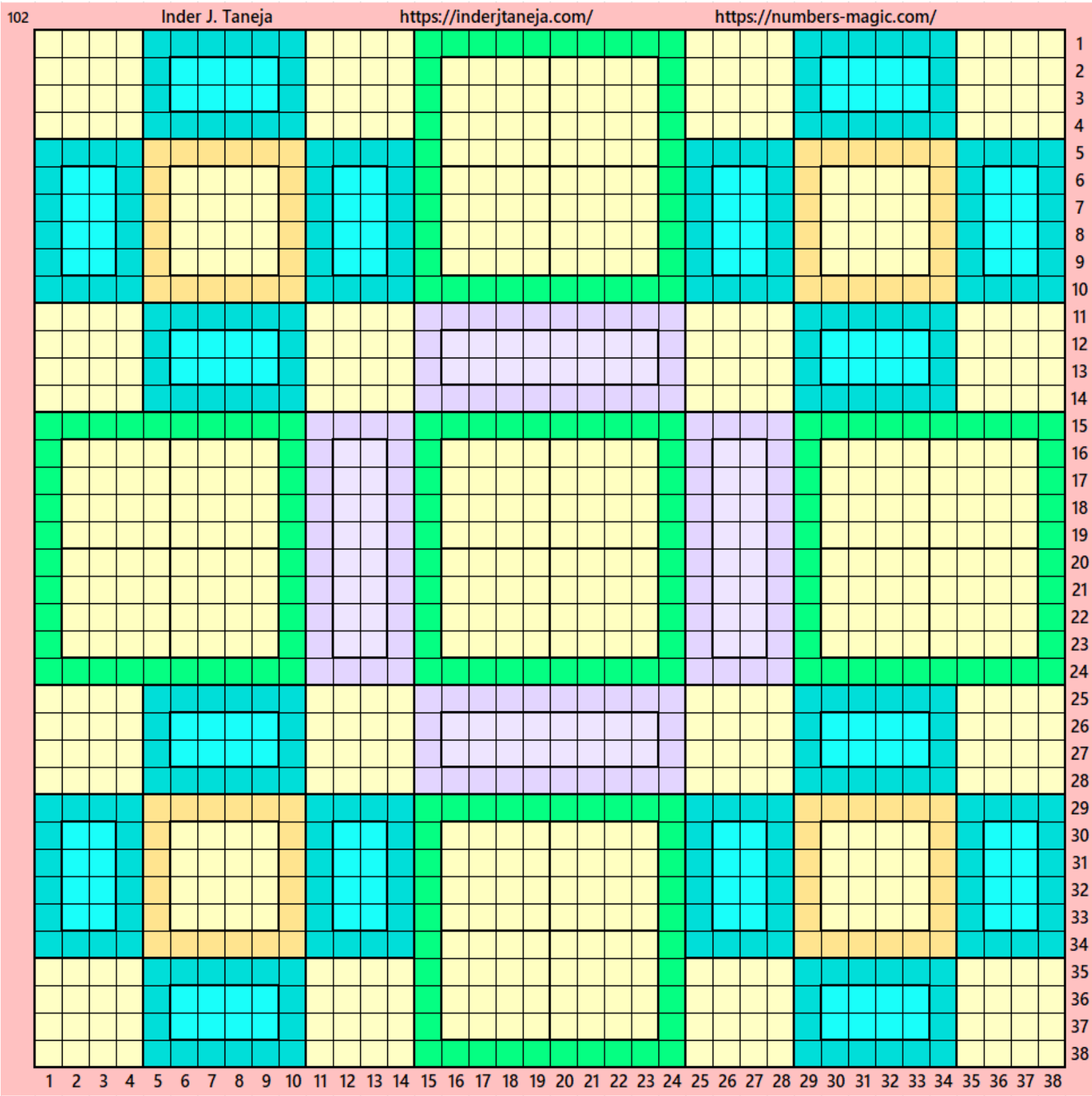


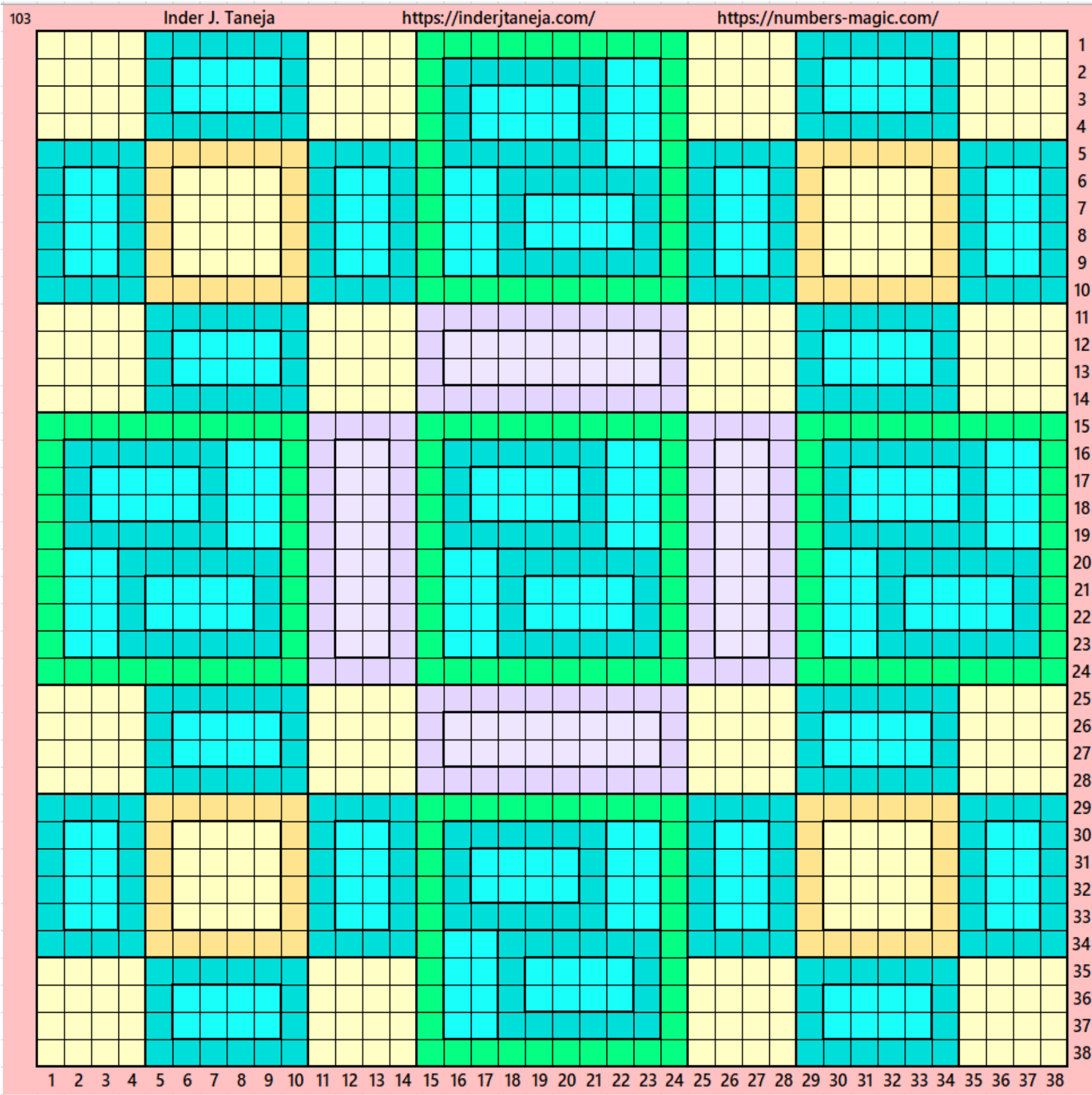


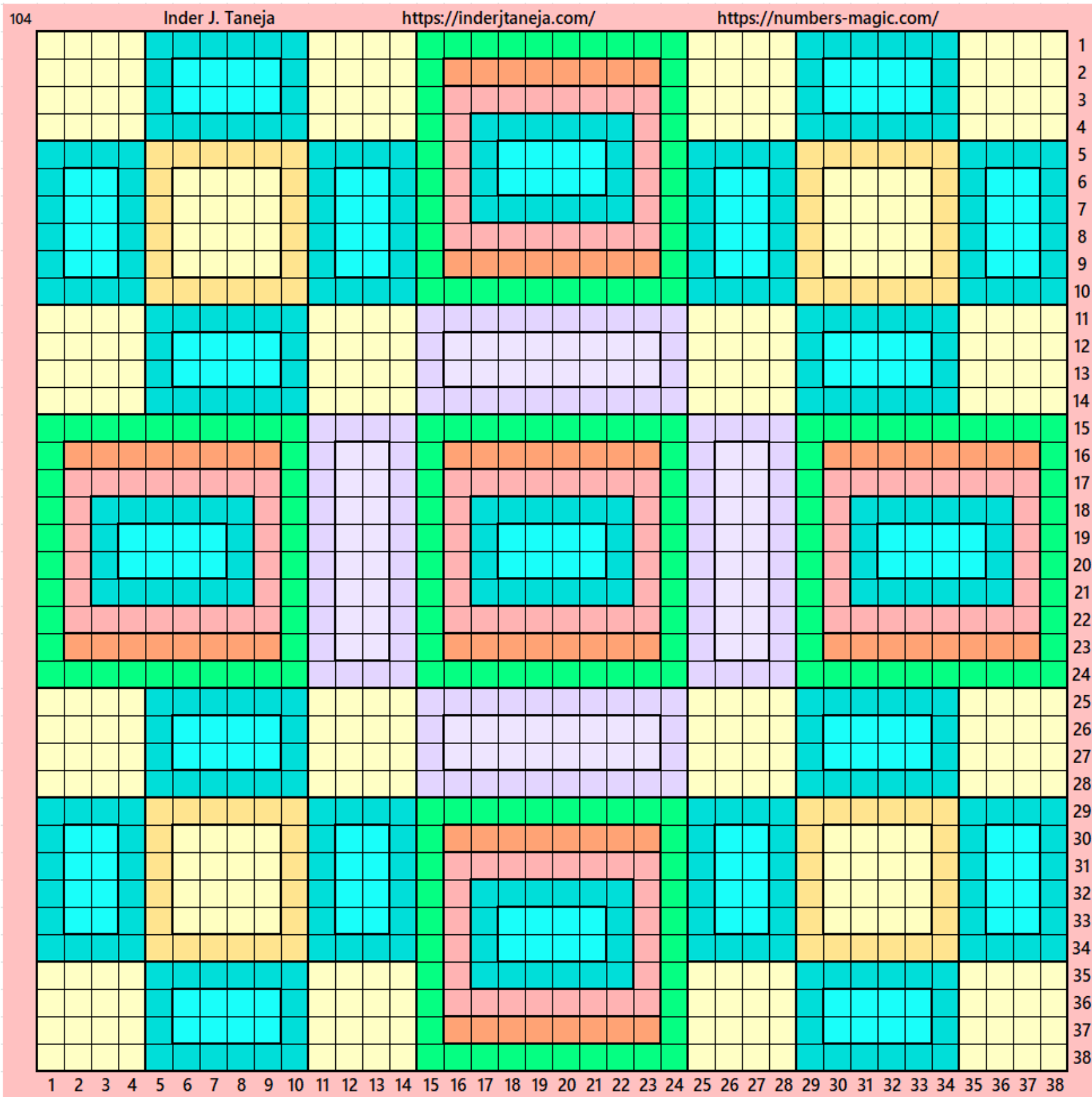


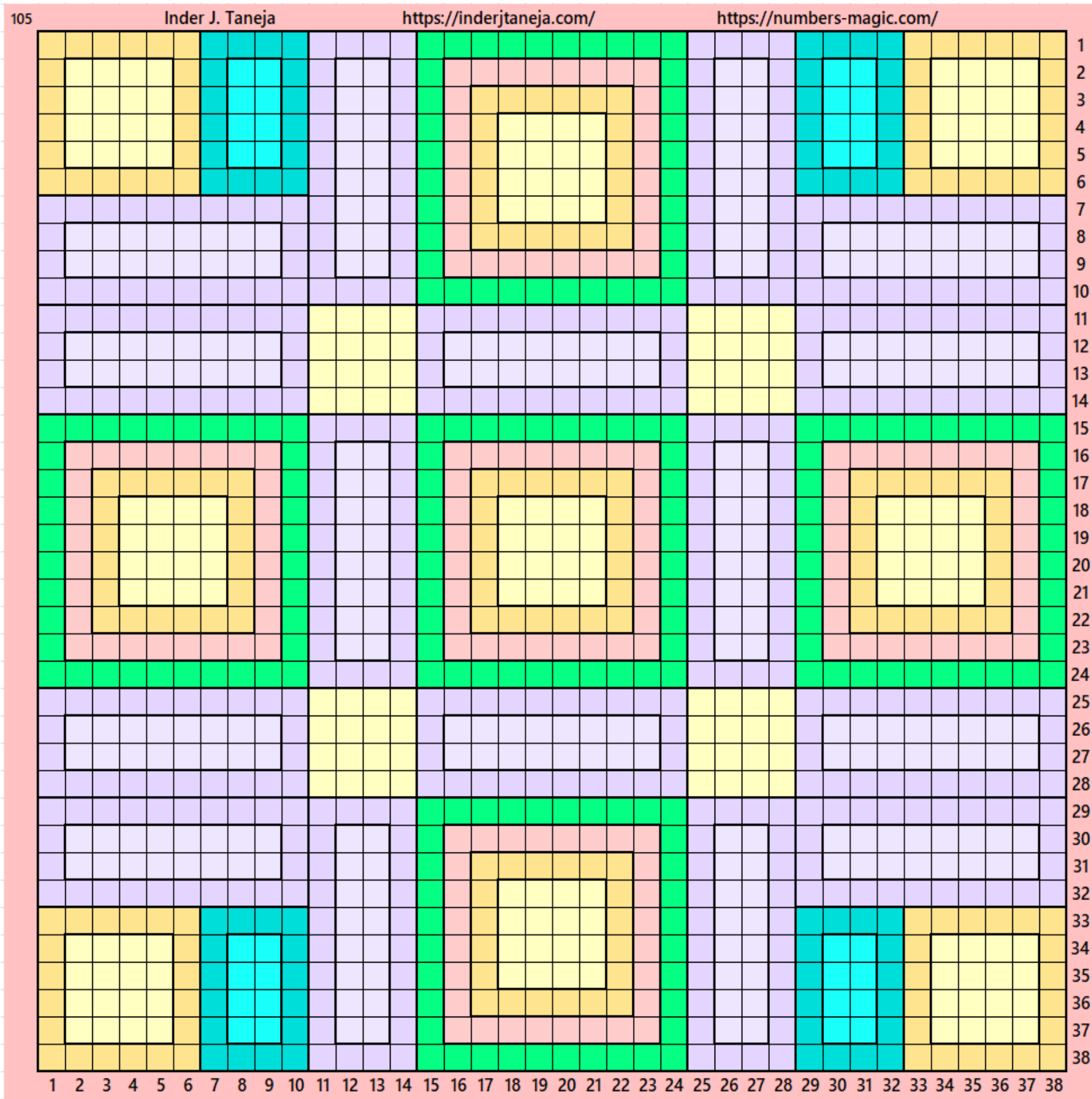


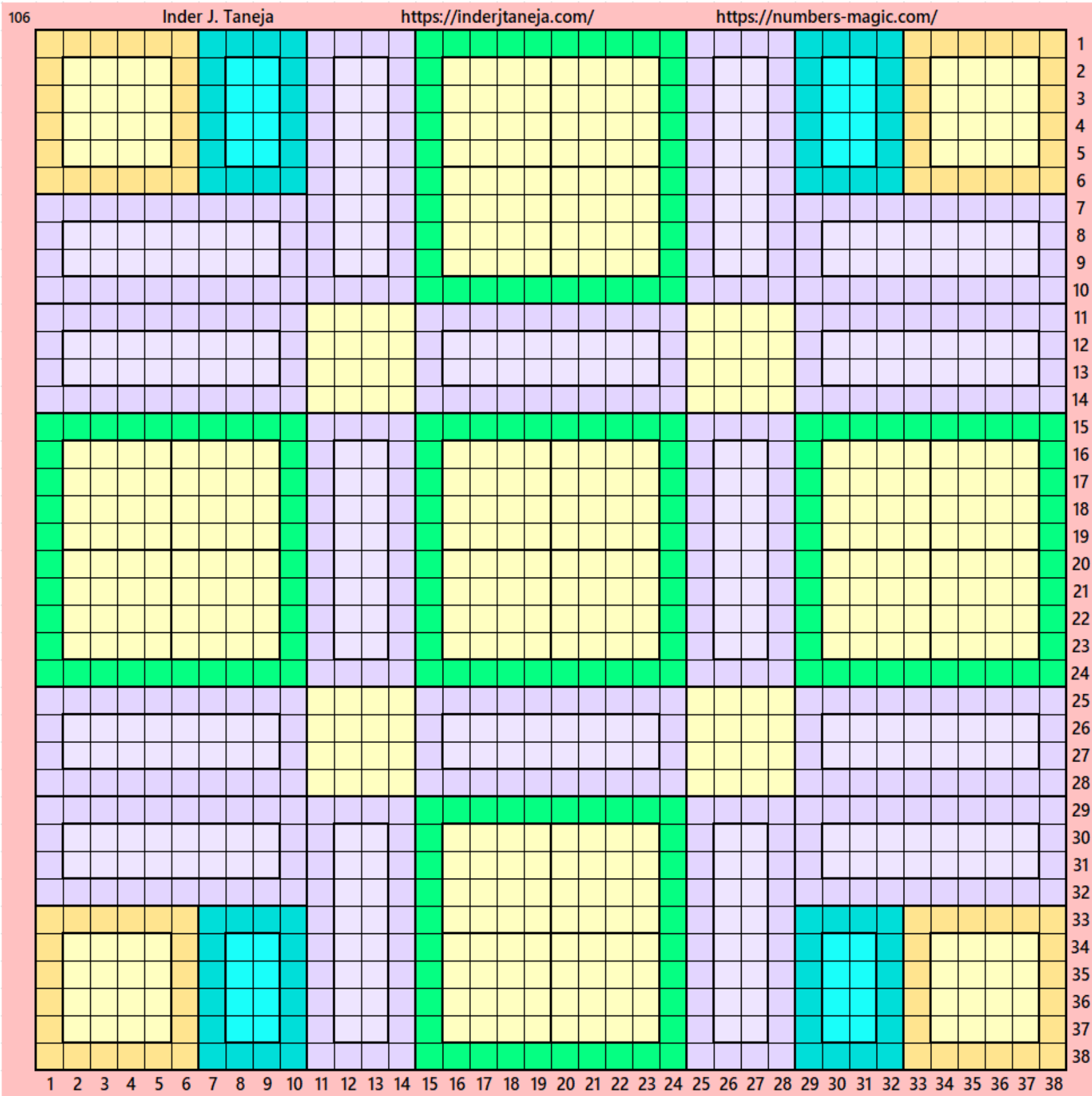


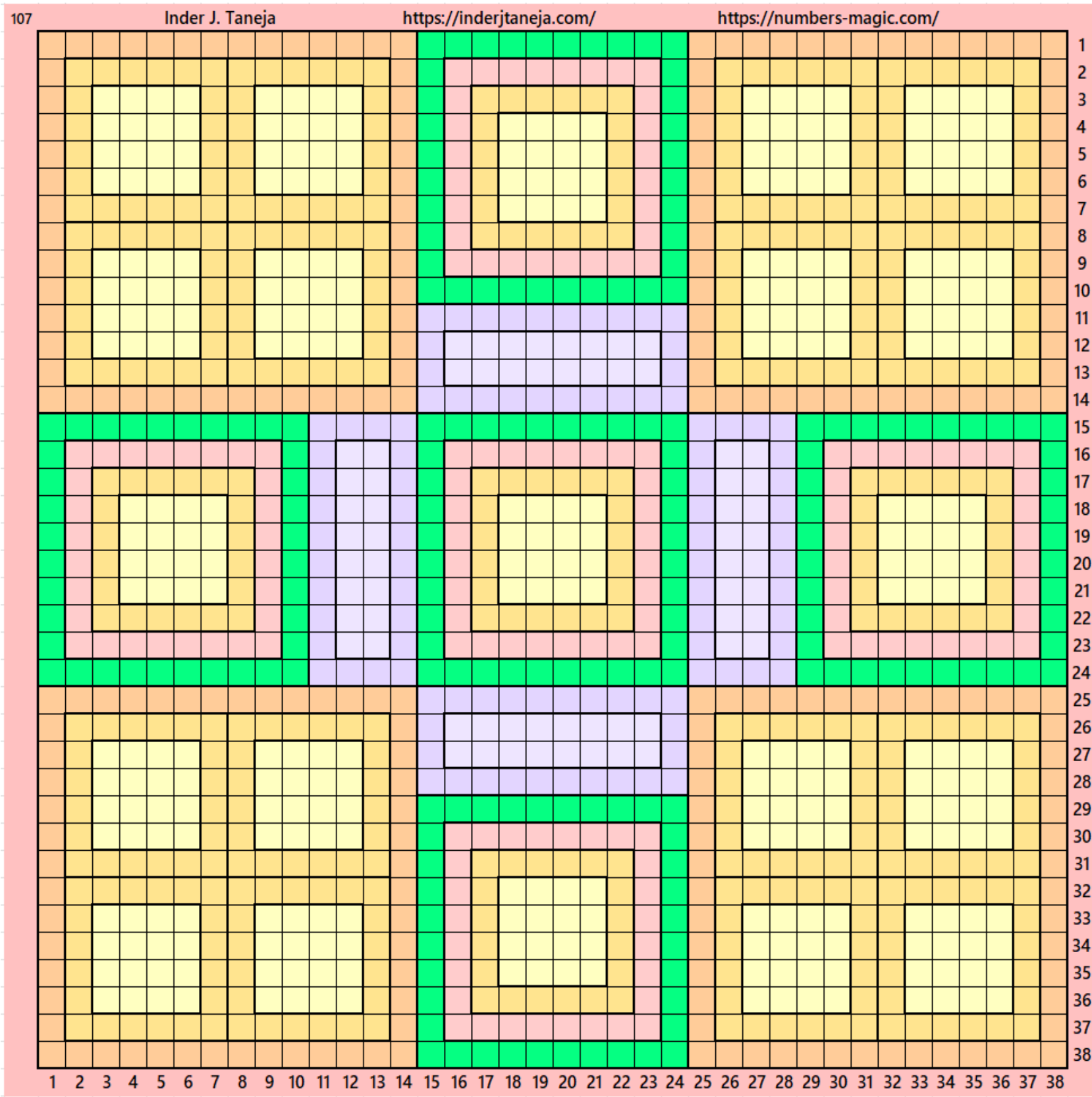


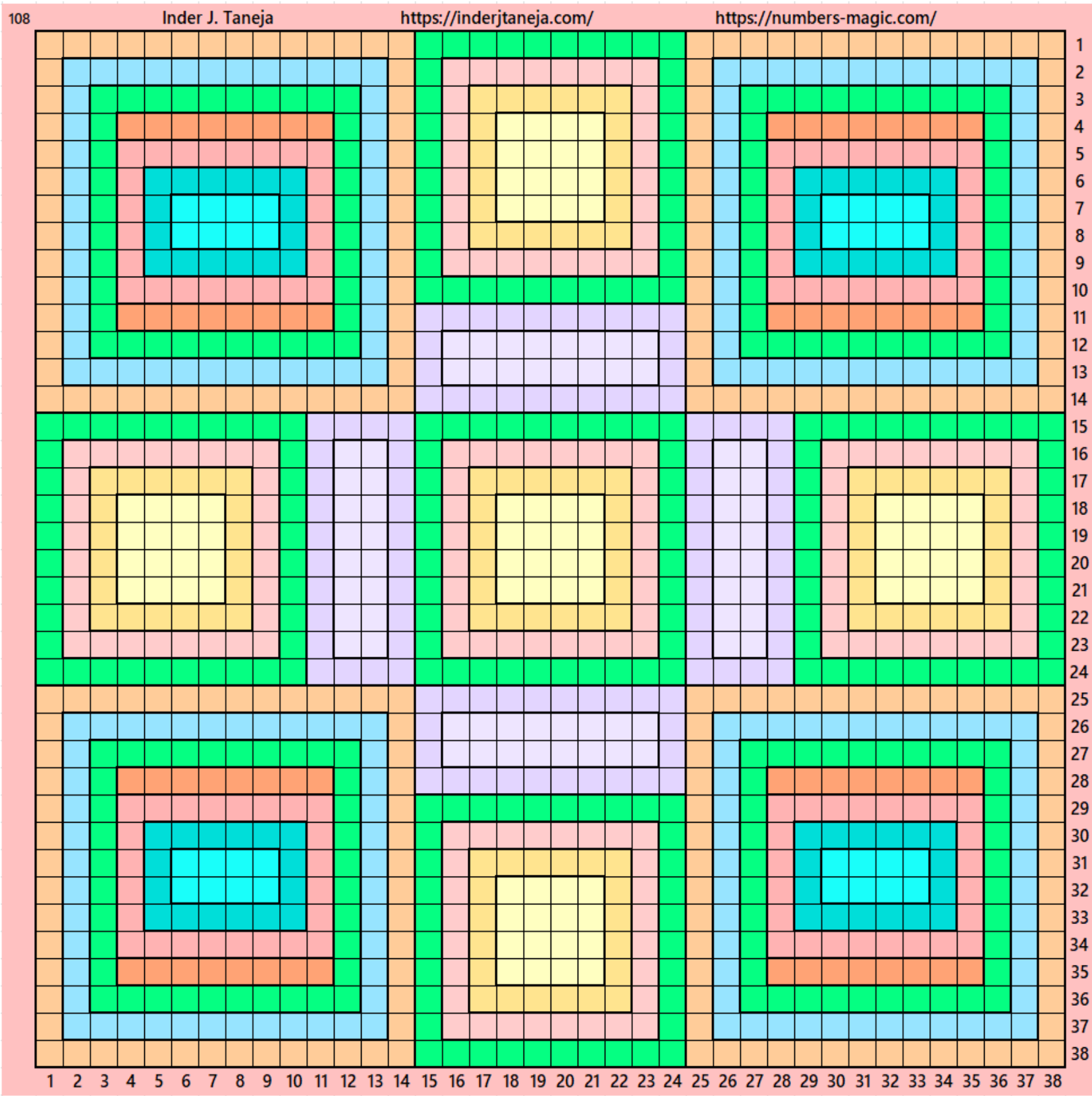


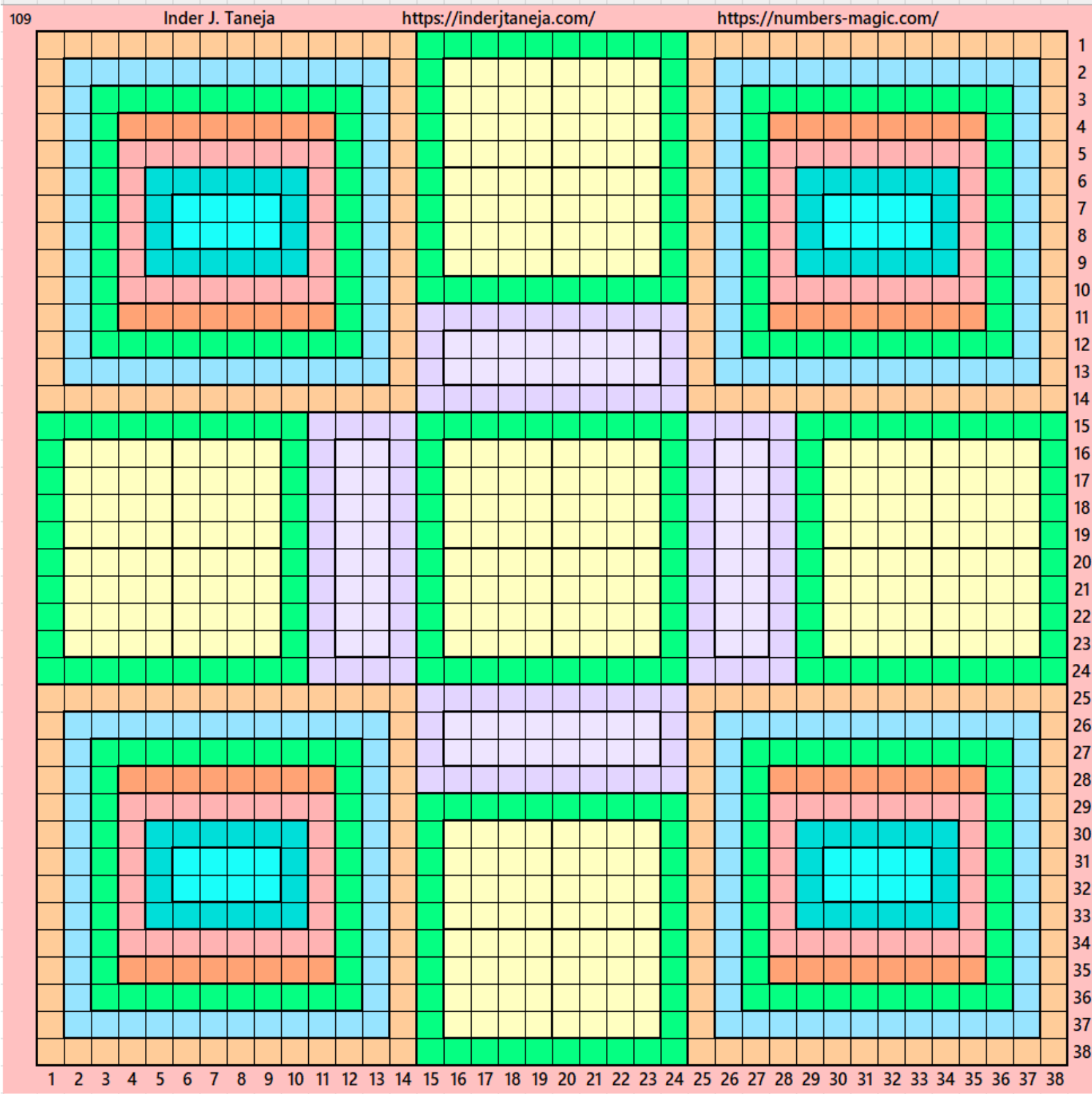


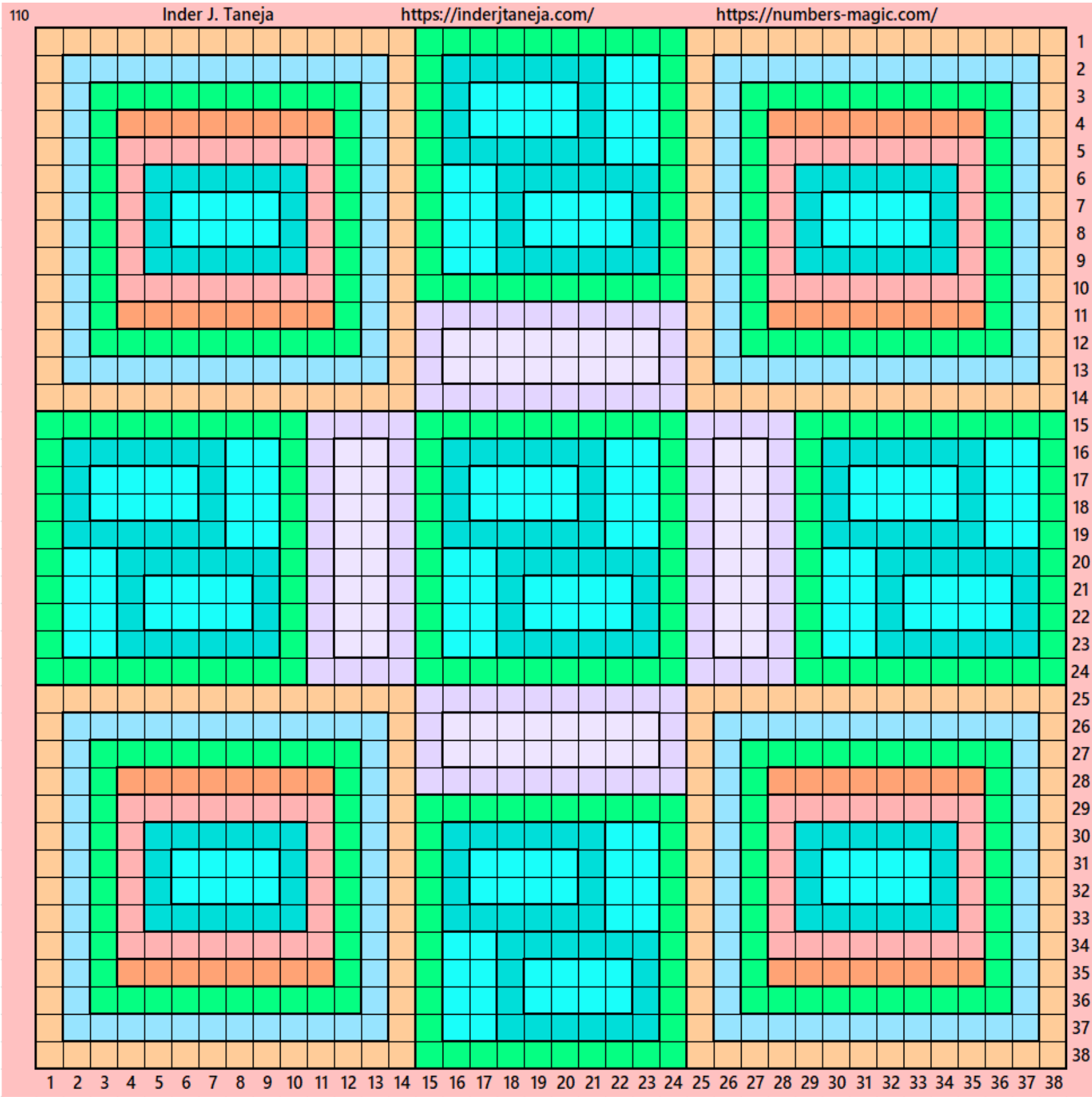


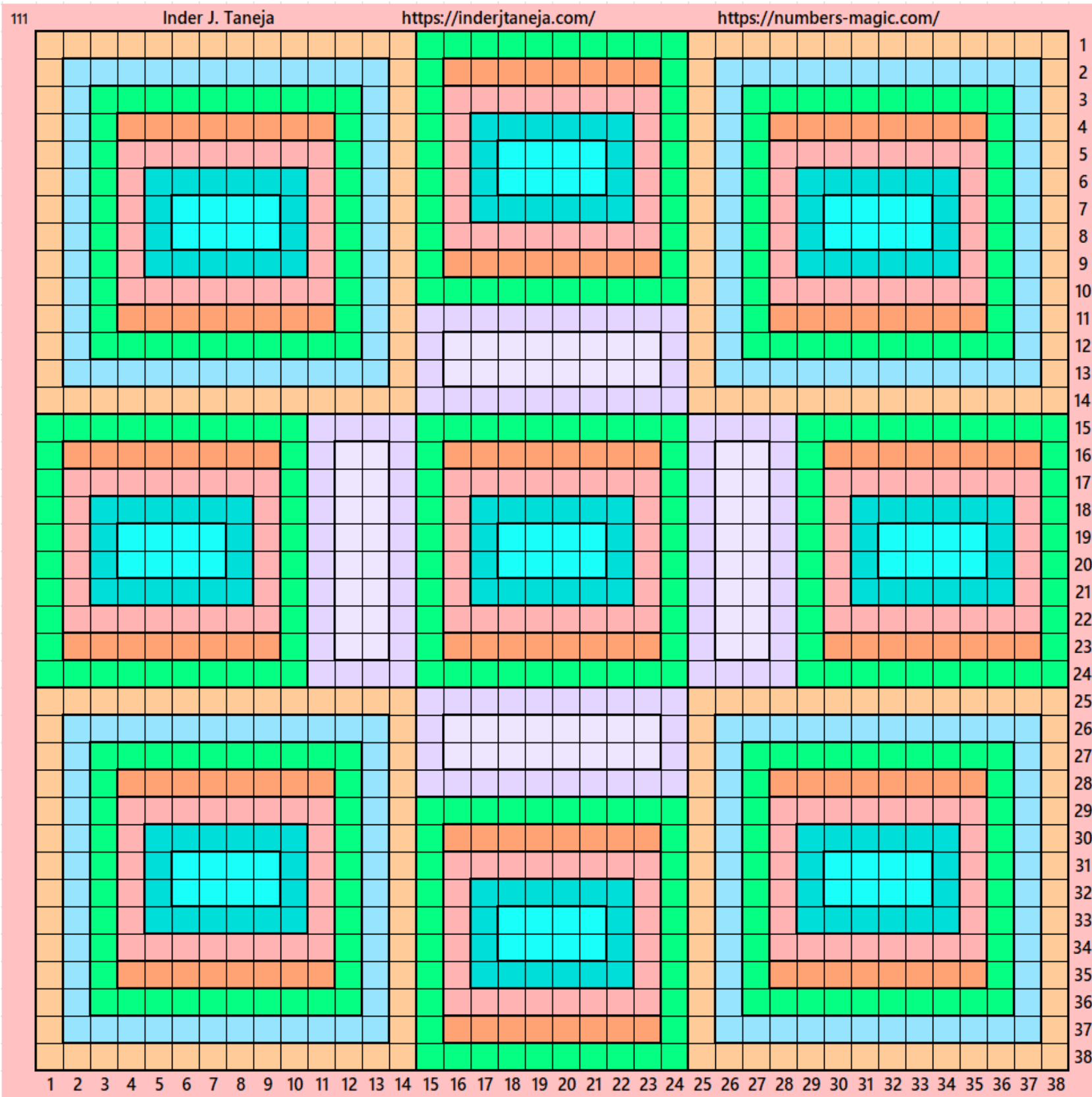




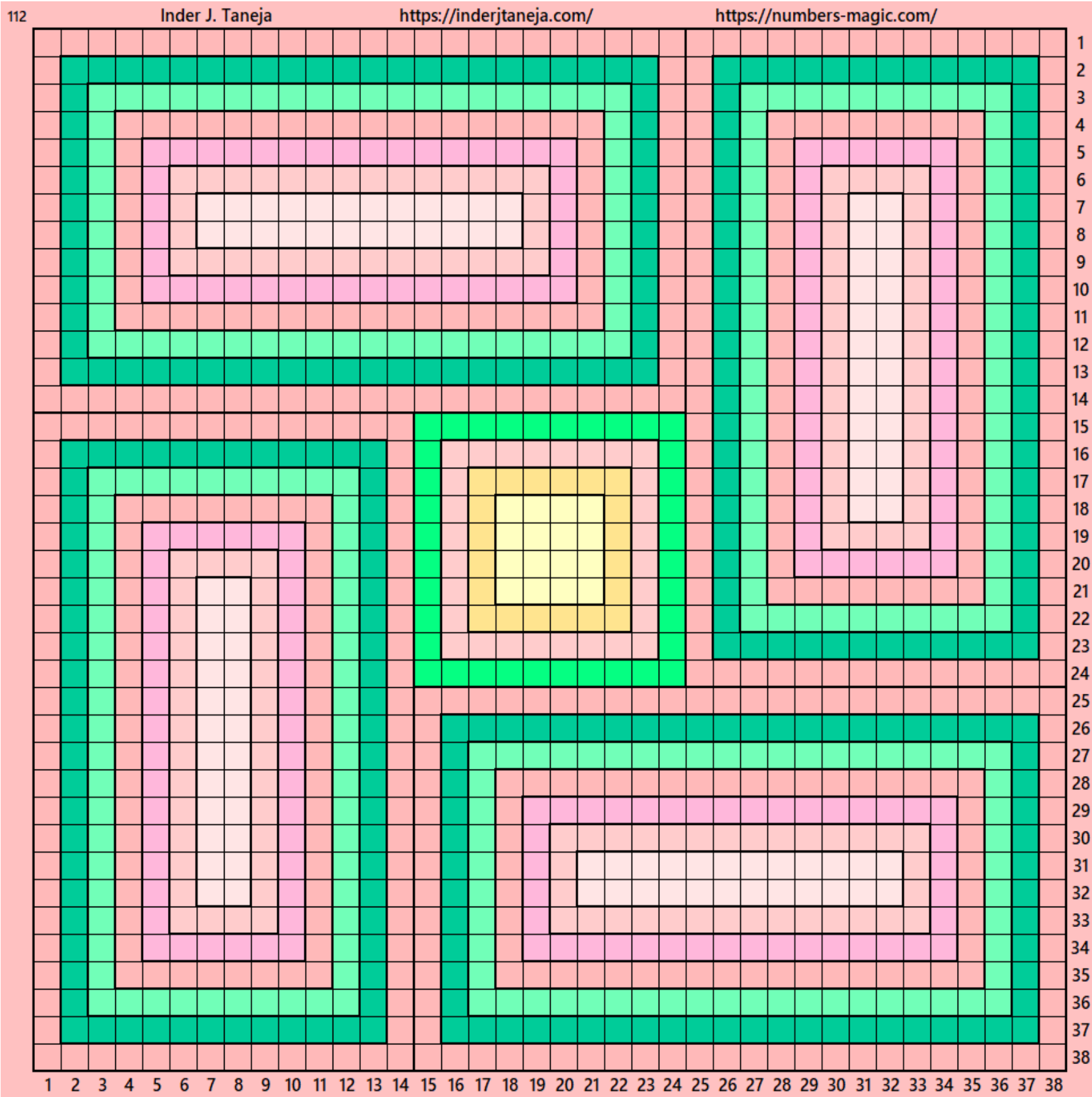




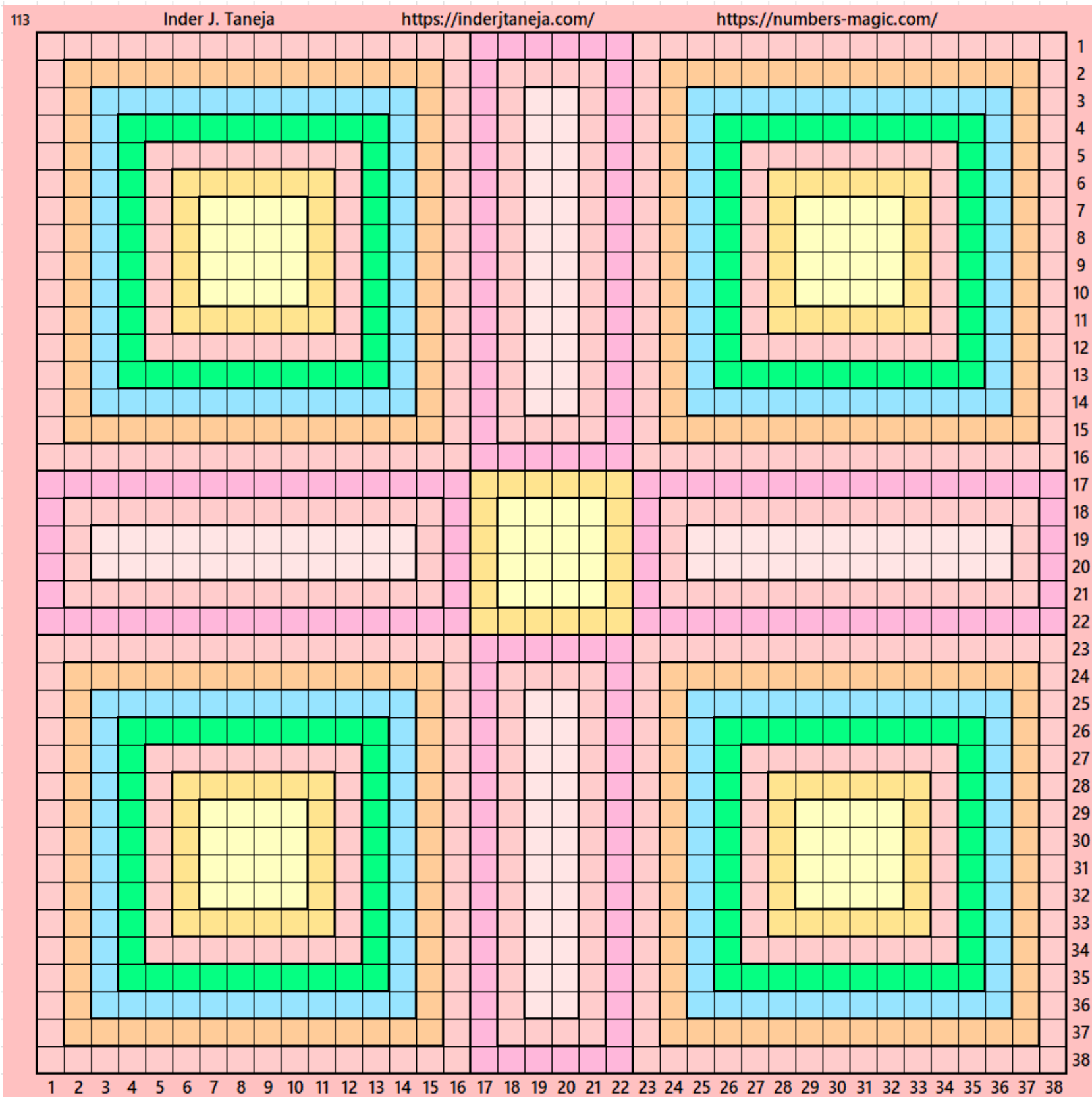


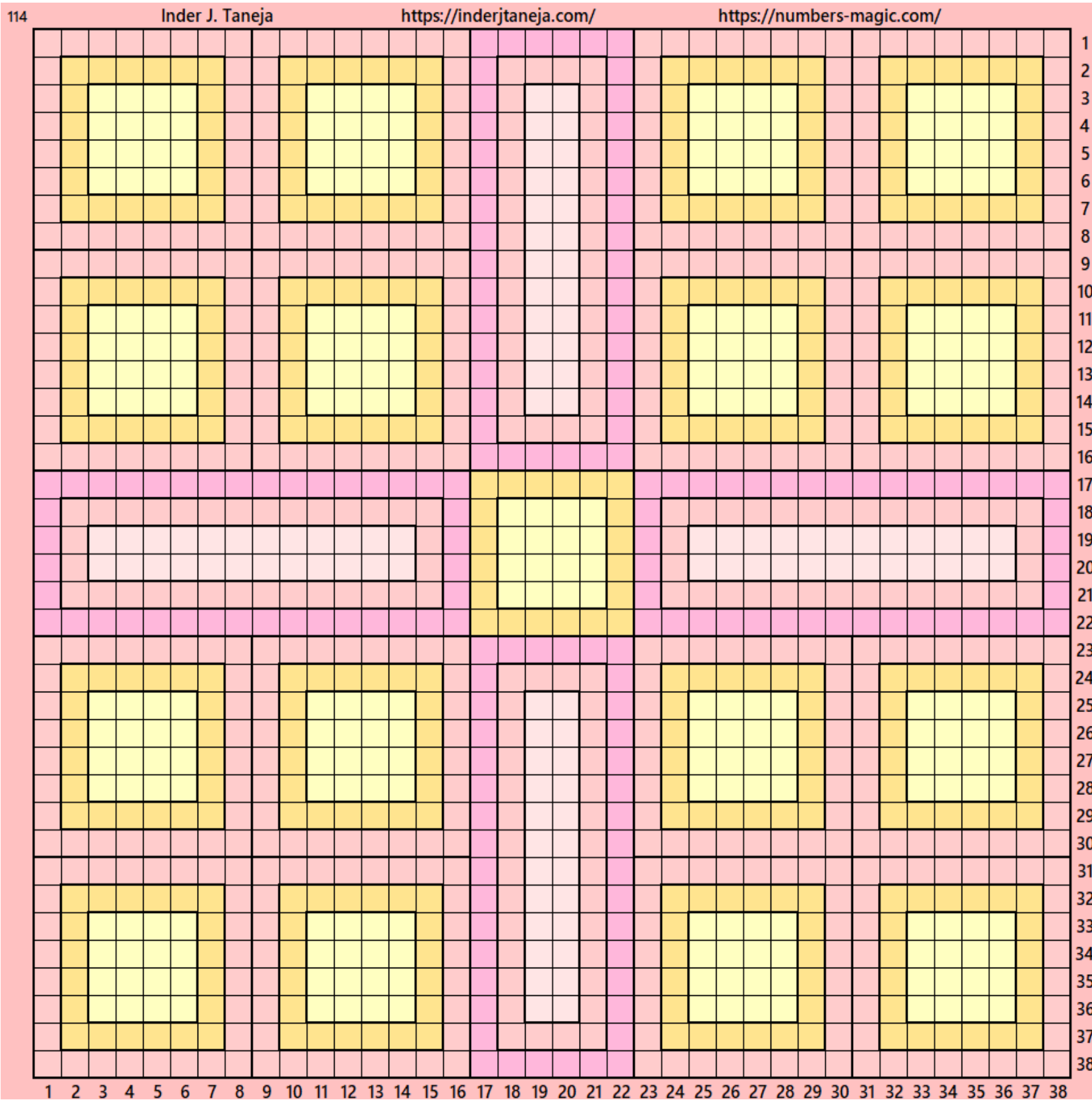


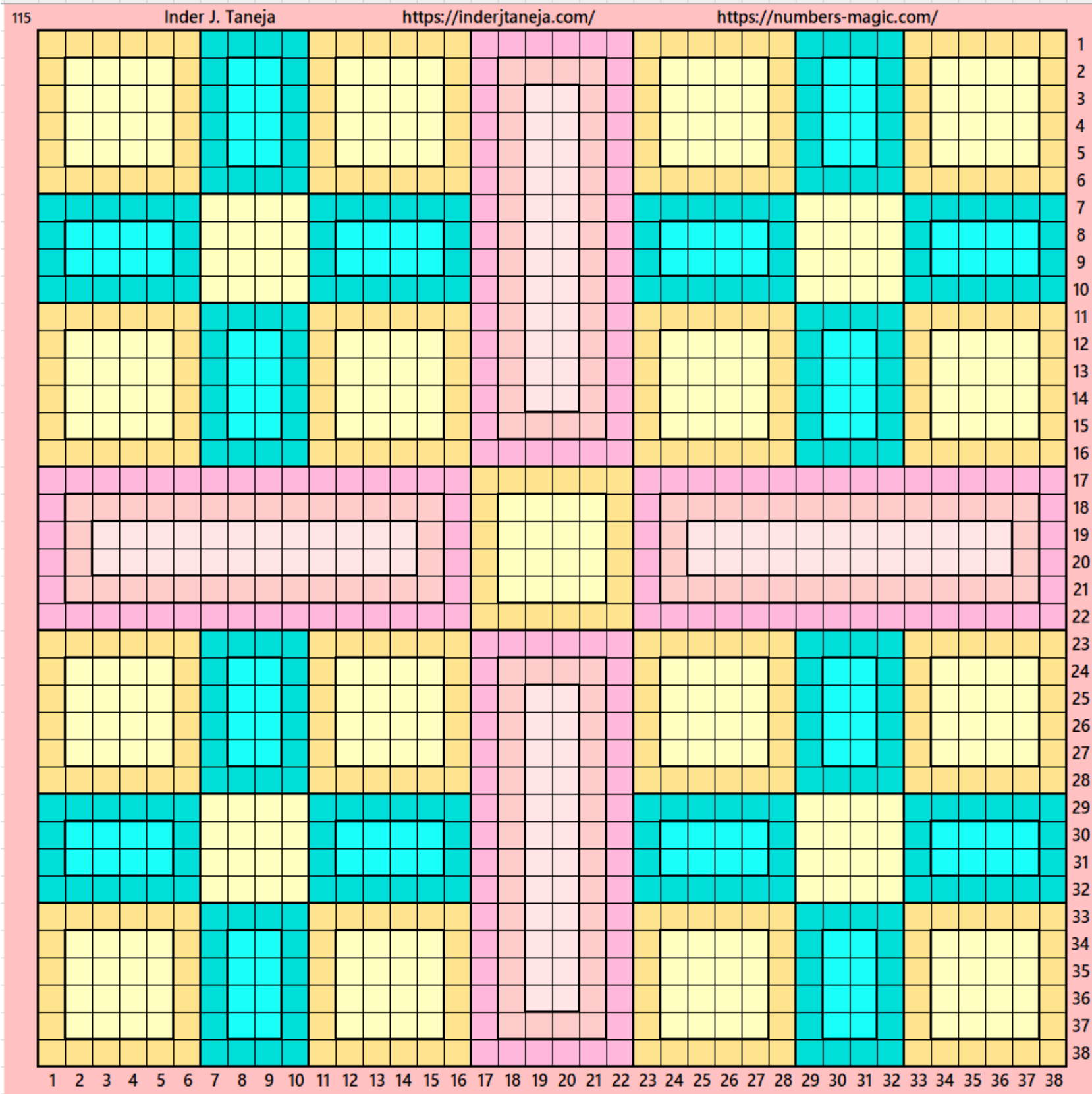
2.12 Closed Border of Order 14

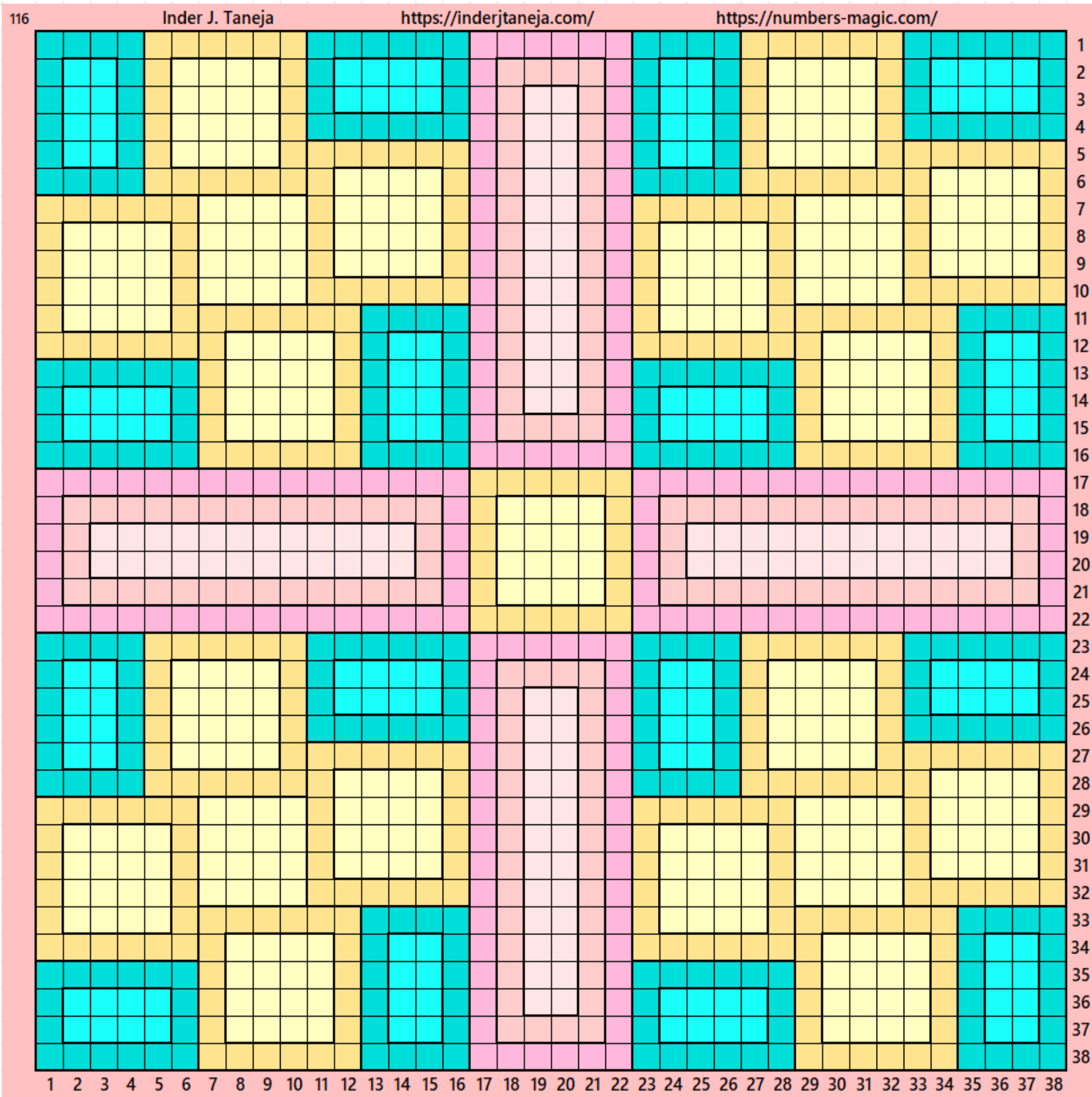


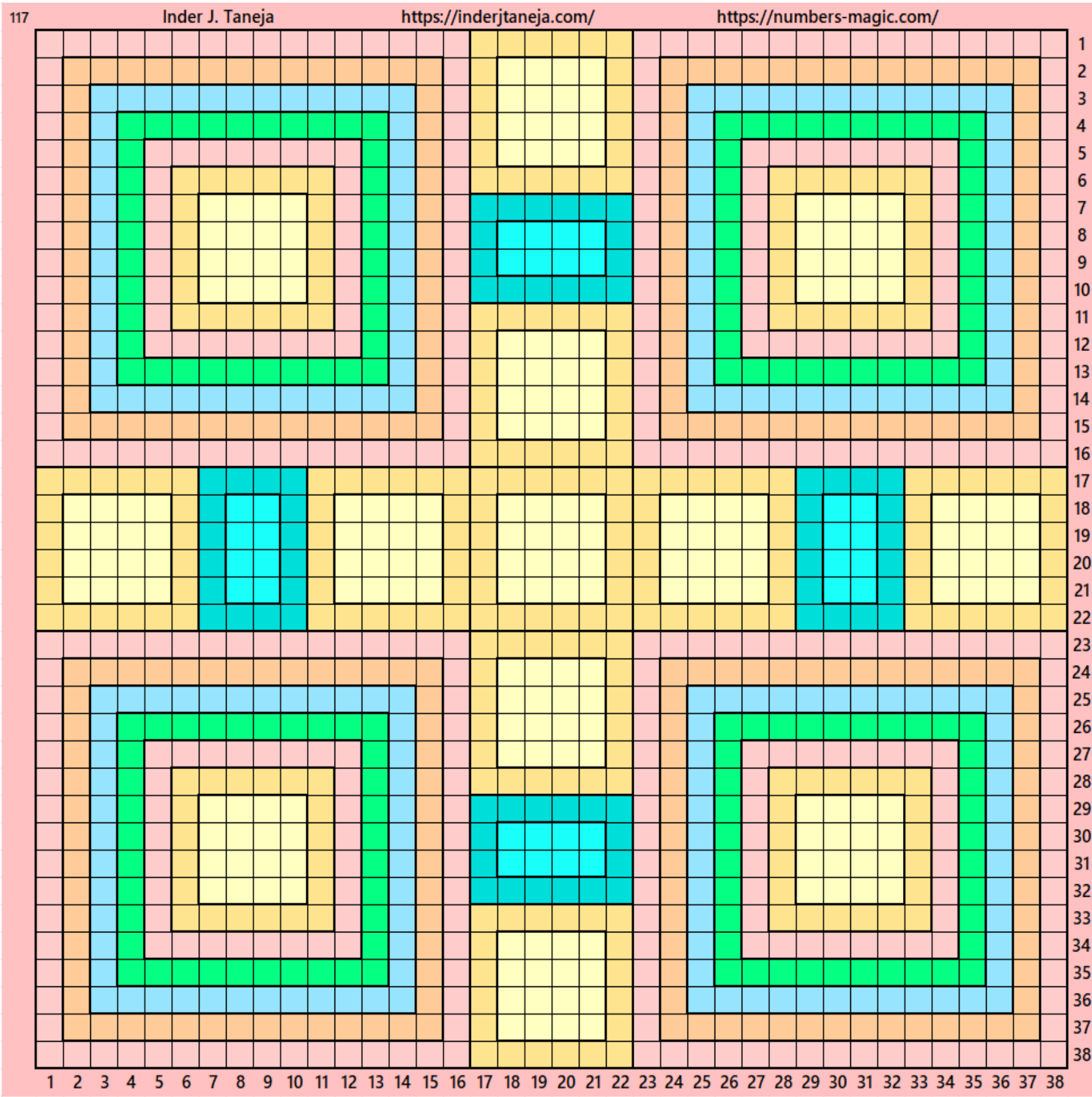
2.13 Cornered Magic Squares of Order 16

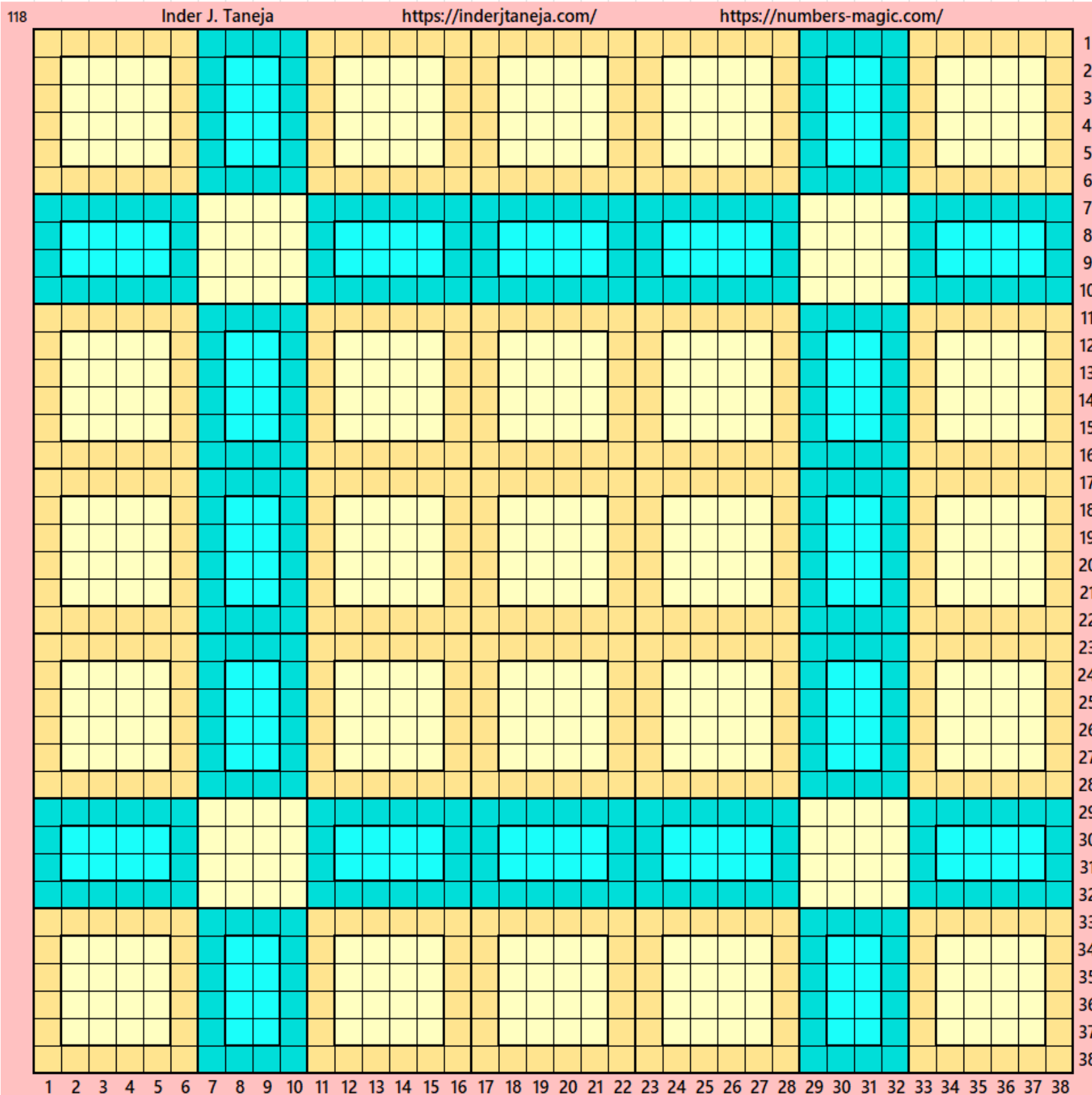




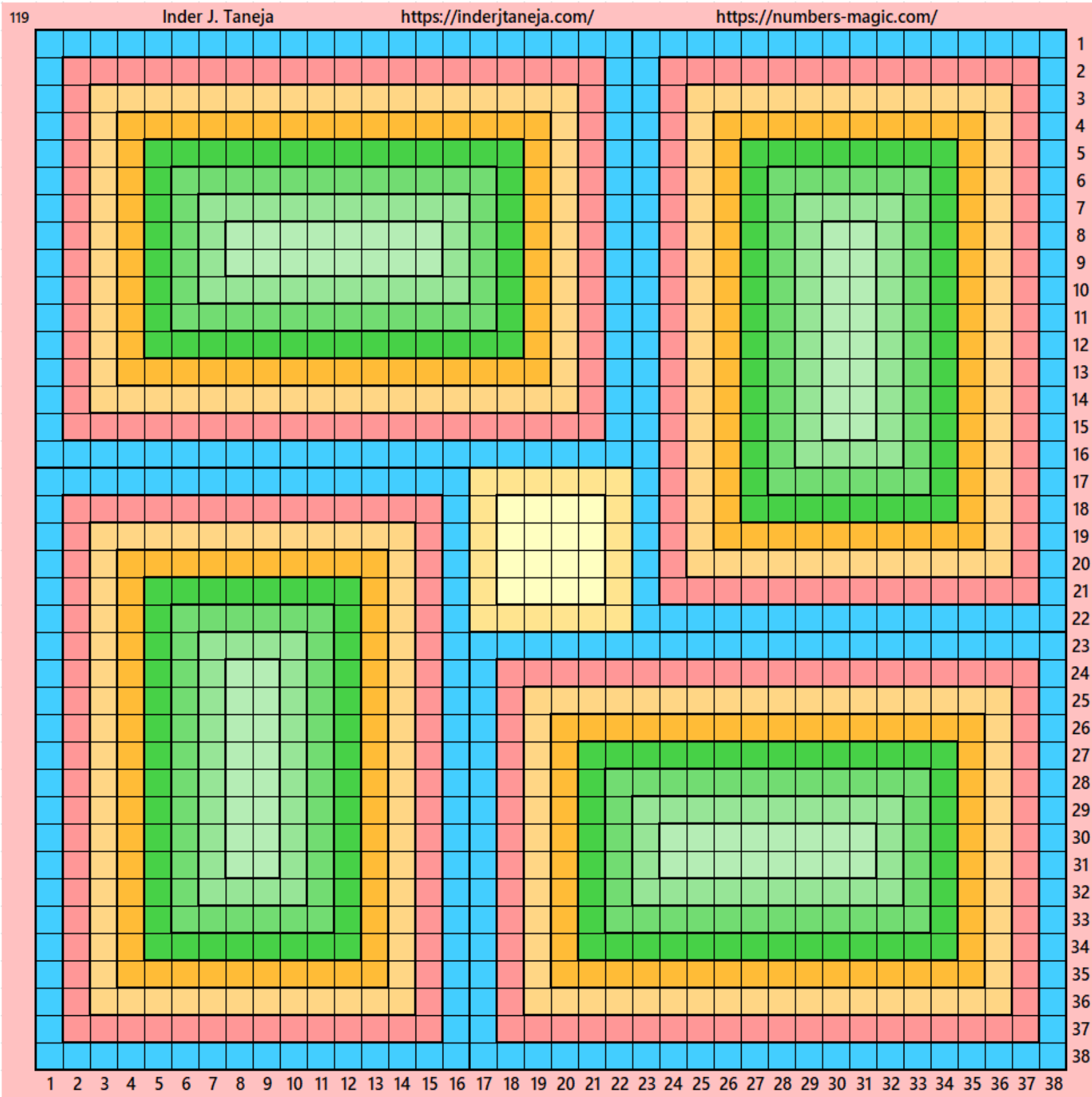




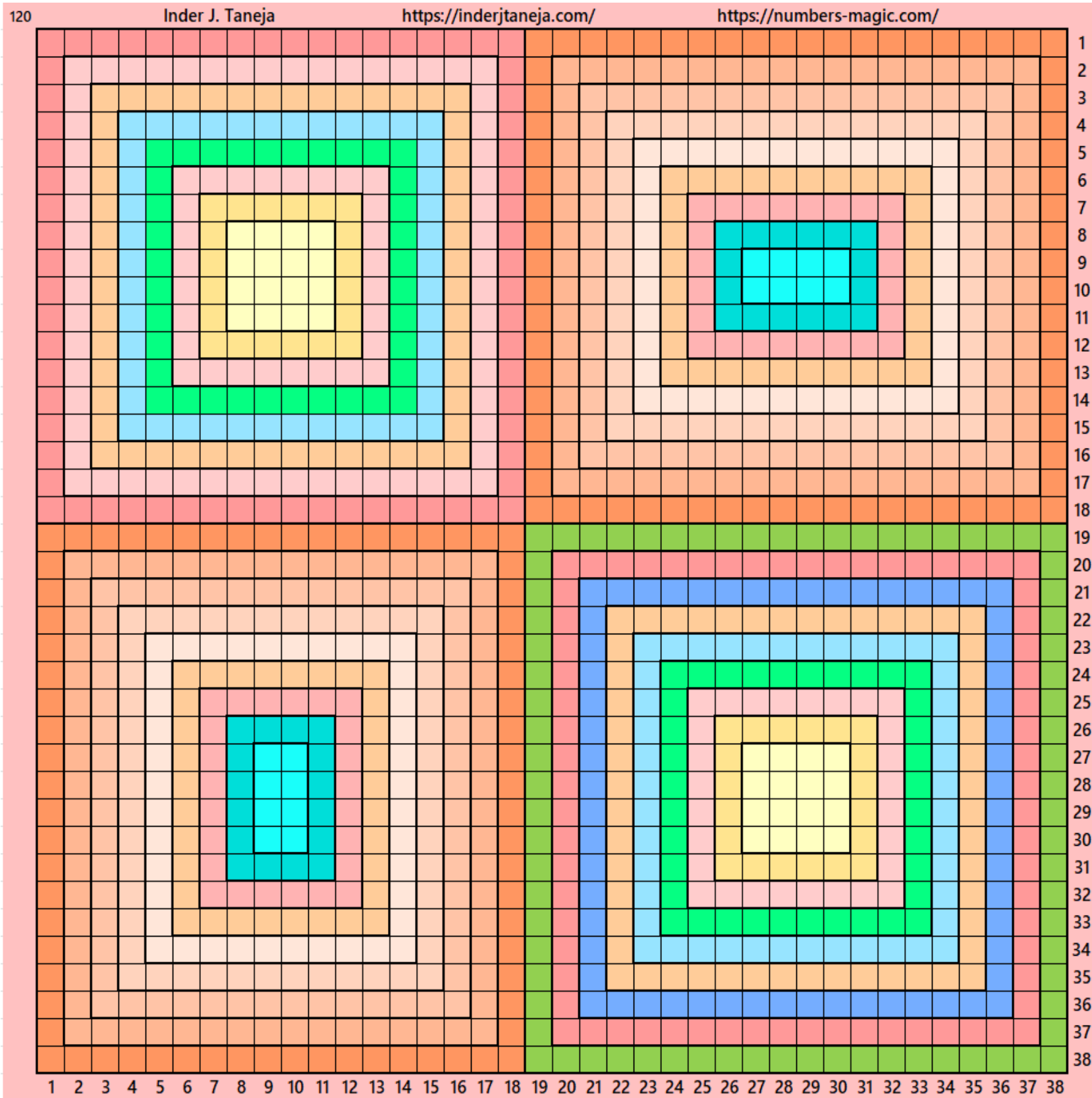


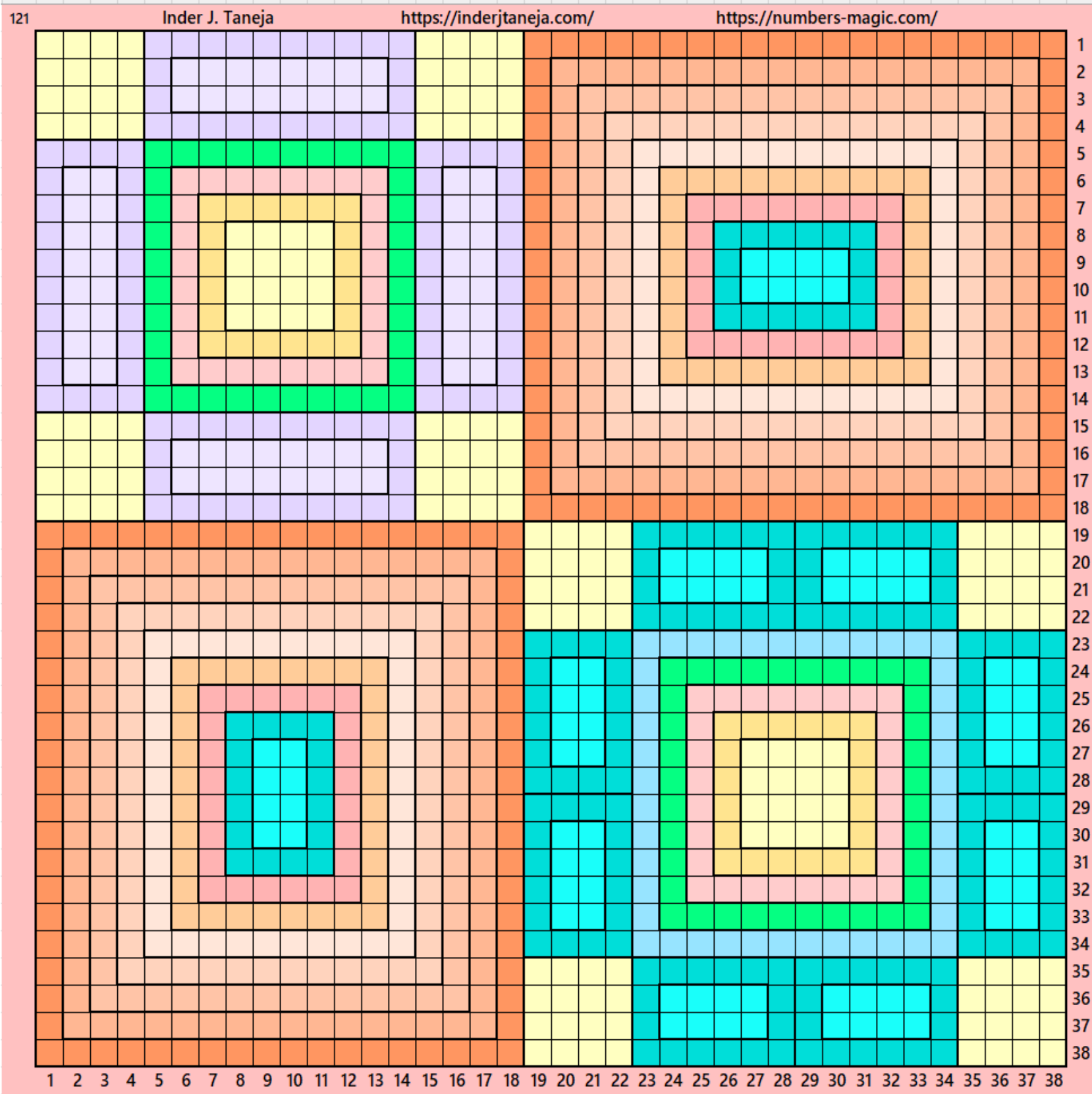


2.14 Closed Border of Order 16



2.15 Magic Squares of Orders 18 and 20, and Two BMRs of Orders 18×20





3 Appendix

Below are tables giving the existence of **bordered magic rectangles** for **half-sequential** numbers.

Order of Magic Square	Bordered Magic Rectangles
6	4×6
8	6×8
10	$4 \times 10, 8 \times 10$
12	$6 \times 12, 10 \times 12$
14	$4 \times 14, 8 \times 14, 12 \times 14$
16	$6 \times 16, 10 \times 16, 14 \times 16$
18	$4 \times 18, 8 \times 18, 12 \times 18$
20	$6 \times 20, 10 \times 20, 14 \times 20, 18 \times 20$
22	$4 \times 22, 8 \times 22, 12 \times 22,$ $16 \times 22, 20 \times 22$
24	$6 \times 24, 10 \times 24, 14 \times 24,$ $18 \times 24, 22 \times 24$
26	$4 \times 26, 8 \times 26, 12 \times 26,$ $16 \times 26, 20 \times 26, 24 \times 26$
28	$6 \times 28, 10 \times 28, 14 \times 28,$ $18 \times 28, 22 \times 28, 26 \times 28$
30	$4 \times 30, 8 \times 30, 12 \times 30, 16 \times 30,$ $20 \times 30, 24 \times 30, 28 \times 30$
32	$6 \times 32, 10 \times 32, 14 \times 32, 18 \times 32,$ $22 \times 32, 26 \times 32, 30 \times 32$
34	$4 \times 34, 8 \times 34, 12 \times 34, 16 \times 34,$ $20 \times 34, 24 \times 34, 28 \times 34, 32 \times 34$

Order of Magic Square	Bordered Magic Rectangles
36	$6 \times 36, 10 \times 36, 14 \times 36, 18 \times 36,$ $22 \times 36, 26 \times 36, 30 \times 36, 34 \times 36$
38	$4 \times 38, 8 \times 38, 12 \times 38, 16 \times 38, 20 \times 38,$ $24 \times 38, 28 \times 38, 32 \times 38, 36 \times 38$
40	$6 \times 40, 10 \times 40, 14 \times 40, 18 \times 40, 22 \times 40,$ $26 \times 40, 30 \times 40, 34 \times 40, 38 \times 40$
42	$4 \times 42, 8 \times 42, 12 \times 42, 16 \times 42, 20 \times 42,$ $24 \times 42, 28 \times 42, 32 \times 42, 36 \times 42, 40 \times 42$
44	$6 \times 44, 10 \times 44, 14 \times 44, 18 \times 44, 22 \times 44, 26 \times 44,$ $30 \times 44, 34 \times 44, 38 \times 44, 42 \times 44$
46	$4 \times 46, 8 \times 46, 12 \times 46, 16 \times 46, 20 \times 46, 24 \times 46,$ $28 \times 46, 32 \times 46, 36 \times 46, 40 \times 46, 44 \times 46$
48	$6 \times 48, 10 \times 48, 14 \times 48, 18 \times 48, 22 \times 48, 26 \times 48,$ $30 \times 48, 34 \times 48, 38 \times 48, 42 \times 48, 46 \times 48$
50	$4 \times 50, 8 \times 50, 12 \times 50, 16 \times 50, 20 \times 50, 24 \times 50,$ $28 \times 50, 32 \times 50, 36 \times 50, 40 \times 50, 44 \times 50, 48 \times 50$

4 Author’s Contribution to Magic Squares and Recreation Numbers

For author’s contribution to **magic squares** and **recreation numbers** please see the links below:

- Inder J. Taneja, Magic Squares, <https://inderjtaneja.com/2019/06/27/publications-magic-squares/>
- Inder J. Taneja, Recreation of Numbers, <https://inderjtaneja.com/2019/06/27/publications-recreation-of-numbers/>

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The **bordered magic rectangles** are constructed based on the software produced by H. White [1]. The author is thankful to H. White for this valuable help.

References

- [1] **H. White**, Bordered Magic Squares, <http://budshaw.ca/MagicRectangles.html>.
- [2] **Inder J. Taneja**, Magic Squares - <https://inderjtaneja.com/category/magic-squares/>.
- [3] **Inder J. Taneja**, Recreating Numbers and Magic Squares - <https://numbers-magic.com/>.
-
- **Block-Wise Magic Squares**
-
- [4] **Inder J. Taneja**, Block-Wise Constructions of Magic and Bimagic Squares of Orders 8 to 108, May 15, 2019, pp. 1-43, **Zenodo**, <http://doi.org/10.5281/zenodo.2843326>.
- [5] **Inder J. Taneja**, Block-Wise Equal Sums Pandiagonal Magic Squares of Order $4k$, **Zenodo**, January 31, 2019, pp. 1-17, <http://doi.org/10.5281/zenodo.2554288>.
- [6] **Inder J. Taneja**, Magic Rectangles in Construction of Block-Wise Pandiagonal Magic Squares, **Zenodo**, January 31, 2019, pp. 1-49, <http://doi.org/10.5281/zenodo.2554520>.
- [7] **Inder J. Taneja**, Block-Wise Equal Sums Magic Squares of Orders $3k$ and $6k$, **Zenodo**, February 1, 2019, pp. 1-55, <http://doi.org/10.5281/zenodo.2554895>.
- [8] **Inder J. Taneja**, Block-Wise Unequal Sums Magic Squares, **Zenodo**, February 1, 2019, pp. 1-52, <http://doi.org/10.5281/zenodo.2555260>.
- [9] **Inder J. Taneja**, Block-Wise Magic and Bimagic Squares of Orders 12 to 36, **Zenodo**, February 1, 2019, pp. 1-53, <http://doi.org/10.5281/zenodo.2555343>.
- [10] **Inder J. Taneja**, Block-Wise Magic and Bimagic Squares of Orders 39 to 45, **Zenodo**, February 2, 2019, pp. 1-73, <http://doi.org/10.5281/zenodo.2555889>.

● Bordered Magic Squares

- [11] **Inder J. Taneja**, Nested Magic Squares With Perfect Square Sums, Pythagorean Triples, and Borders Differences, **Zenodo**, June 14, 2019, pp. 1-59, <http://doi.org/10.5281/zenodo.3246586>.
- [12] **Inder J. Taneja**, Symmetric Properties of Nested Magic Squares, **Zenodo**, June 29, 2019, pp. 1-55, <http://doi.org/10.5281/zenodo.3262170>.
- [13] **Inder J. Taneja**, General Sum Symmetric and Positive Entries Nested Magic Squares, **Zenodo**, July 04, 2019, pp. 1-55, <http://doi.org/10.5281/zenodo.3268877>.
- [14] **Inder J. Taneja**, Bordered Magic Squares With Order Square Magic Sums, **Zenodo**, January 20, 2020, pp. 1-26, <http://doi.org/10.5281/zenodo.3613690>.
- [15] **Inder J. Taneja**, Fractional and Decimal Type Bordered Magic Squares With Magic Sum 2020. **Zenodo**, January 20, 2020, pp.1-25. <http://doi.org/10.5281/zenodo.3613698>.
- [16] **Inder J. Taneja**, Fractional and Decimal Type Bordered Magic Squares With Magic Sum 2021, **Zenodo**, December 16, 2020, pp. 1-33, <http://doi.org/10.5281/zenodo.4327333>.
- [17] **Inder J. Taneja**, Inder J. Taneja, Block-Wise and Block-Bordered Magic Squares With Magic Sum 2022, **Zenodo**, December 28, 2021, pp. 1-38, <https://doi.org/10.5281/zenodo.5807789>

● Block-Bordered Magic Squares

- [18] **Inder J. Taneja**, Block-Bordered Magic Squares of Prime and Double Prime Numbers - I, **Zenodo**, August 18, 2020, pp. 1-81, <http://doi.org/10.5281/zenodo.3990291>.
- [19] **Inder J. Taneja**, Block-Bordered Magic Squares of Prime and Double Prime Numbers - II, **Zenodo**, August 18, 2020, pp. 1-90, <http://doi.org/10.5281/zenodo.3990293>.
- [20] **Inder J. Taneja**, Block-Bordered Magic Squares of Prime and Double Prime Numbers - III, **Zenodo**, September 01, 2020, pp. 1-93, <http://doi.org/10.5281/zenodo.4011213>.

● Block-Wise and Block-Bordered Magic Squares

- [21] **Inder J. Taneja**, Block-Wise and Block-Bordered Magic and Bimagic Squares With Magic Sums 21, 21^2 and 2021. **Zenodo**, December 16, 2020, pp. 1-118, <http://doi.org/10.5281/zenodo.4380343>.
- [22] **Inder J. Taneja**, Block-Wise and Block-Bordered Magic and Bimagic Squares of Orders 10 to 47. **Zenodo**, January 14, 2021, pp. 1-185, <http://doi.org/10.5281/zenodo.4437783>.
- [23] **Inder J. Taneja**, Bordered and Block-Wise Bordered Magic Squares: Odd Order Multiples, **Zenodo**, February 10, 2021, pp. 1-75, <http://doi.org/10.5281/zenodo.4527739>
- [24] **Inder J. Taneja**, Bordered and Block-Wise Bordered Magic Squares: Even Order Multiples, **Zenodo**, February 10, 2021, pp. 1-96, <http://doi.org/10.5281/zenodo.4527746>

● Block-Wise Bordered Magic Squares

- [25] **Inder J. Taneja**, Block-Wise Bordered and Pandiagonal Magic Squares Multiples of 4, **Zenodo**, August 31, 2021, pp. 1-148, <https://doi.org/10.5281/zenodo.5347897>.
- [26] **Inder J. Taneja**, Block-Wise Bordered Magic Squares Multiples of Magic and Bordered Magic Squares of Order 6, **Zenodo**, September 10, pp. 1-99 <https://doi.org/10.5281/zenodo.5500134>.
- [27] **Inder J. Taneja**, Block-Wise Bordered Magic Squares Multiples of 8, **Zenodo**, September 17, pp. 1-80, <https://doi.org/10.5281/zenodo.5514396>.
- [28] **Inder J. Taneja**, Block-Wise Bordered Magic Squares Multiples of 10, **Zenodo**, September 17, pp. 1-170, <https://doi.org/10.5281/zenodo.5514398>.
- [29] **Inder J. Taneja**, Block-Wise Bordered and Pandiagonal Magic Squares Multiples of 12, **Zenodo**, September 23, pp. 1-170, <https://doi.org/10.5281/zenodo.5523608>.
- [30] **Inder J. Taneja**, Block-Wise Bordered Magic Squares Multiples of 14, **Zenodo**, September 26, pp. 1-198, <https://doi.org/10.5281/zenodo.5528867>.

● Bordered Magic Rectangles

- [31] **Inder J. Taneja**, Different Styles of Magic Squares of Orders 6, 8, 10 and 12 Using Bordered Magic Rectangles, **Zenodo**, November 14, 2022, pp. 1-26, <https://doi.org/10.5281/zenodo.7319985>.
- [32] **Inder J. Taneja**, Different Styles of Magic Squares of Order 14 Using Bordered Magic Rectangles, **Zenodo**, November 14, 2022, pp. 1-40, <https://doi.org/10.5281/zenodo.7319787>.
- [33] **Inder J. Taneja**, Different Styles of Magic Squares of Order 16 Using Bordered Magic Rectangles, **Zenodo**, November 14, 2022, pp. 1-63, <https://doi.org/10.5281/zenodo.7320116>.
- [34] **Inder J. Taneja**, Different Styles of Magic Squares of Order 18 Using Bordered Magic Rectangles, **Zenodo**, November 14, 2022, pp. 1-85, <https://doi.org/10.5281/zenodo.7320131>.
- [35] **Inder J. Taneja**, Different Styles of Magic Squares of Order 20 Using Bordered Magic Rectangles, **Zenodo**, November 14, 2022, pp. 1-88, <https://doi.org/10.5281/zenodo.7320877>.
- [36] **Inder J. Taneja**, Few Examples of Magic Squares of Even Orders 6 to 18 Using Bordered Magic Rectangles, **Zenodo**, October 19, 2022, pp. 1-30, <https://doi.org/10.5281/zenodo.7225854>.
- [37] **Inder J. Taneja**, Few Examples of Magic Squares of Even Orders 20 to 30 Using Bordered Magic Rectangles, **Zenodo**, October 19, 2022, pp. 1-100, <https://doi.org/10.5281/zenodo.7225886>.

● Figured Magic Squares and Bordered Magic Rectangles

- [38] **Inder J. Taneja**, Figured Magic Squares of Orders 6, 10, 12, 14 and 16 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, November 29, 2022, pp. 1-31, <https://doi.org/10.5281/zenodo.7377674>.
- [39] **Inder J. Taneja**, Figured Magic Squares of Orders 18 and 20 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, November 29, 2022, pp. 1-87, <https://doi.org/10.5281/zenodo.7377689>.

- [40] **Inder J. Taneja**, Figured Magic Squares of Order 22 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, November 29, 2022, pp. 1-61, <https://doi.org/10.5281/zenodo.7377706>.
- [41] **Inder J. Taneja**, Figured Magic Squares of Order 24 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, November 29, 2022, pp. 1-104, <https://doi.org/10.5281/zenodo.7377779>.
- [42] **Inder J. Taneja**, Figured Magic Squares of Order 26 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, November 29, 2022, pp. 1-88, <https://doi.org/10.5281/zenodo.7377794>.
- [43] **Inder J. Taneja**, Figured Magic Squares of Order 28 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, December 02, 2022, pp. 1-179, <https://doi.org/10.5281/zenodo.7390666>.
- [44] **Inder J. Taneja**, Figured Magic Squares of Order 30 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, December 02, 2022, pp. 1-179, <https://doi.org/10.5281/zenodo.7390705>.
- [45] **Inder J. Taneja**, Figured Magic Squares of Order 32 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, December 22, 2022, pp. 1-310, <https://doi.org/10.5281/zenodo.7472891>.
- [46] **Inder J. Taneja**, Figured Magic Squares of Order 34 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, December 27, 2022, pp. 1-193, <https://doi.org/10.5281/zenodo.7486540>.
- [47] **Inder J. Taneja**, Figured Magic Squares of Order 36 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, December 27, 2022, pp. 1-140, <https://doi.org/10.5281/zenodo.7486548>.
- [48] **Inder J. Taneja**, Figured Magic Squares of Order 38 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, January 03, 2023, pp. 1-133, <https://doi.org/10.5281/zenodo.7500188>.

- [49] **Inder J. Taneja**, Figured Magic Squares of Order 40 Using Bordered Magic Rectangles: A Systematic Procedure, **Zenodo**, January 03, 2023, pp. 1-157, <https://doi.org/10.5281/zenodo.7500192>.

● Creative Magic Squares

- [50] **Inder J. Taneja**, Creative Magic Squares: Area Representations, **Zenodo**, June 22, pp. 1-45, 2021, <http://doi.org/10.5281/zenodo.5009224>.
-