

# इयदोक्य महभरत

Episode - 4  
20<sup>th</sup>- 22<sup>nd</sup> December 2014

Outside Variations  
by  
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## Important Links

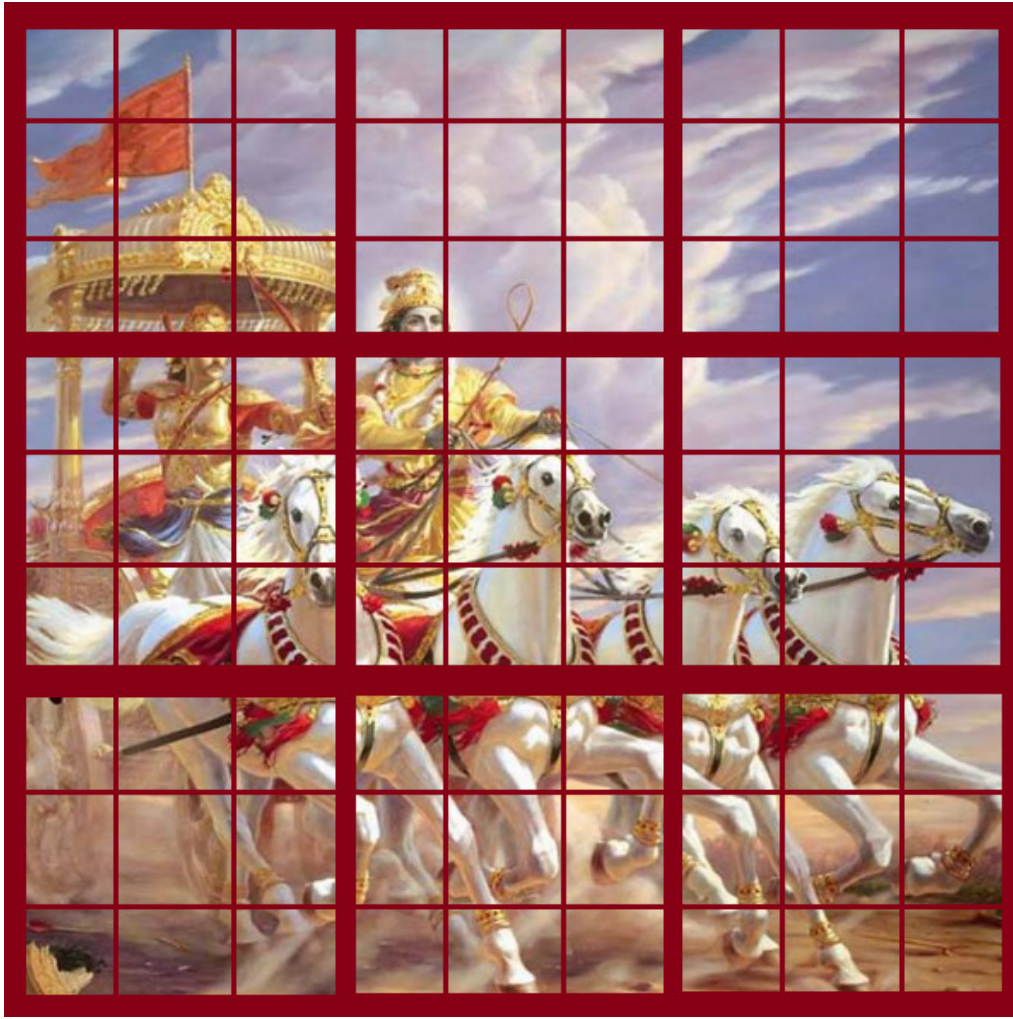
Submission Page : <http://logicmastersindia.com/SM/?test=SM201412>

Discussion Thread : <http://logicmastersindia.com/t/?tid=901>

About Sudoku Mahabharat : <http://logicmastersindia.com/SM/>

F. A. Q. : <http://logicmastersindia.com/t/?tid=381>

Registration, if required : <http://logicmastersindia.com/register.asp>



## *Mahabharata* (Wikipedia)

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The *Mahabharata* or *Mahābhārata* ([/məhɑːˈbərətə/](#); [Sanskrit](#): महाभारतम्, *Mahābhāratam*, pronounced [\[məhɑːˈbʱɑːrət̪əm\]](#)) is one of the two major [Sanskrit epics](#) of [ancient India](#). The oldest preserved parts of the text are thought to be not much older than around 400 BC, though the origins of the epic probably fall between the 8th and 9th centuries BC.

The Mahabharata is the longest known epic poem and has been described as "the longest poem ever written". Its longest version consists of over 200,000 individual verse lines, and long prose passages. About 1.8 million words in total, the Mahabharata is roughly ten times the length of the [Iliad](#) and the [Odyssey](#) combined. W. J. Johnson has compared the importance of the Mahabharata to world civilization to that of the [Bible](#), the works of [Shakespeare](#), the works of [Homer](#), [Greek drama](#), or the [Qur'an](#).

## About this Episode

This episode will contain

- (a) Classic Sudokus of different sizes
  - 6x6
  - 8x8
  - 9x9
  
- (b) Following Sudokus with outside clues
  - Outside Sudoku
  - Skyscraper Sudoku
  - Descriptive Pairs Sudoku
  - Next to 9 Sudoku
  - Distance Sudoku

## How to participate?

- Understand the rules of different Sudokus that will appear in this episode. This Instruction Booklet has rules for each Sudoku.
- Download the password protected Sudoku booklet (will be uploaded before the test starts). The Sudoku booklet contains the actual Sudokus to be solved. It is password protected, so you won't be able to open it.
- Any time after 20<sup>th</sup> December (but before 22<sup>nd</sup> December), login at the submission page using your LMI userid and password. LMI uses GMT time zone. Please check the submission page for exact timing.
- Click on "Start". At this time, password for pdf will be shown and timer will start.
- You can either solve online using flash interface or print the pdf and solve on paper.
- Each Sudoku will be marked with two arrows
- If solving on paper
  - Fill the answer form with digits along the marked arrows
  - Click submit button
- If solving online
  - After solving the Sudoku, click on "Submit" button below the grid
  - Each Sudoku grid has different submit buttons

If you are participating at LMI for first time, you must check the F.A.Q. at <http://logicmastersindia.com/t/?tid=381>.

## Points Table and Scoring

Points typically indicate difficulty of the Sudokus and the time required to solve them. While the organizers have made the best efforts to match them, your personal experience and preference may differ.

This test uses instant grading where a solver can submit any individual sudoku and receive confirmation whether the solution is correct or not. Each incorrect submission reduces the sudoku's potential score. The first, second, third, and fourth incorrect submissions reduce the potential score to 90%, 70%, 40%, and 0% respectively.

Standard 6X6	1, 1, 1, 1
Standard 8X8	3
Standard 9X9	7, 8, 5
Outside 6X6, 9X9	2, 9
Skyscraper 6X6, 9X9	4, 11
Descriptive Pairs 6X6, 9X9	4, 15
Next to 6, Next to 9	3, 10
Distance 6X6, 9X9	4, 11

## Bonus

If you submitted all sudokus correctly, you can have bonus points 1 point per minute saved, computed up to seconds.

## Answer Keys

Each Sudoku will be marked with, at the maximum, two lettered arrows. If you are solving on paper, you need to submit the digits in these arrows, in order, including the givens. For example, the answer key for the Sudoku at the right is 162897453, 517698432. If you are solving online, you need to ensure the digits in these arrows are all filled, before submitting.


## About the Sudoku Booklet

The password protected Sudoku booklet will have 8 pages. If you are planning to solve on paper, we advise you to have a printer accessible with enough paper. The Sudoku booklet will look like the next 8 pages in this instruction booklet. The font sizes, cell sizes, colors, borders, shading, margin will be similar. We recommend you to print next few pages of this instruction booklet, to avoid any last minute surprises during the test.

## Standard Sudoku

Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.

1 point

**B**

	6				
			2		3
6		1	4		
		4	6		2
5		6			
				4	

**A**

1 point

**D**

		2	1		
	3			2	
6					1
4					3
	5			4	
		6	5		

**C**

1 point

**F**

	1	4	5	6	
	2			3	
	3			4	
	4	6	3	5	
	6		4		
	5			1	

**E**

1 point

6		5		4	
	2		6		4
	3		1		5
	5		3		6

**G**

**H**

## Standard Sudoku

3 points

Place a digit from 1 to 8 in each empty cell so that each digit appears exactly once in each row, column and 2X4 box.

A

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

B

## Standard Sudoku

7 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.

A

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

B

## Standard Sudoku

8 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.

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

## Standard Sudoku

5 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.

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

## Outside Sudoku

2 points

Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box. The digits outside the grid must appear in one of the cells in the first box (till the next bold line) seen from that edge of the grid.

Grid structure: 6 rows, 6 columns. Bold lines separate boxes: (1,1)-(2,3), (1,4)-(2,6), (3,1)-(4,3), (3,4)-(4,6), (5,1)-(6,3), (5,4)-(6,6).

Row labels: 1, 3, 2, 1, 5 (left); 3, 4, 5, 6, 3, 2 (right)

Column labels: 1, 2, 3, 4, 6 (top); 5, 1, 3, 1, 2 (bottom)

Edge markers: Triangle 'A' at left edge, Triangle 'B' at top edge.

## Outside Sudoku

9 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3x3 box. The digits outside the grid must appear in one of the cells in the first box (till the next bold line) seen from that edge of the grid.

Grid structure: 9 rows, 9 columns. Bold lines separate boxes: (1,1)-(3,3), (1,4)-(3,6), (1,7)-(3,9), (4,1)-(6,3), (4,4)-(6,6), (4,7)-(6,9), (7,1)-(9,3), (7,4)-(9,6), (7,7)-(9,9).

Row labels: 5 8, 6 7, 6 8, 2 3 4, 1, 3 4 (left); 1 3, 4 5, 3 4, 5 7, 8 9, 4 5 6, 1 2 (right)

Column labels: 3 4 5, 8 9, 1 2, 8 9, 1 3, 6 7, 5 6, 8 9 (top); 6 7, 2 3, 8 9, 6 7, 8 9, 3 4 5, 7 8, 1 9, 2 3 (bottom)

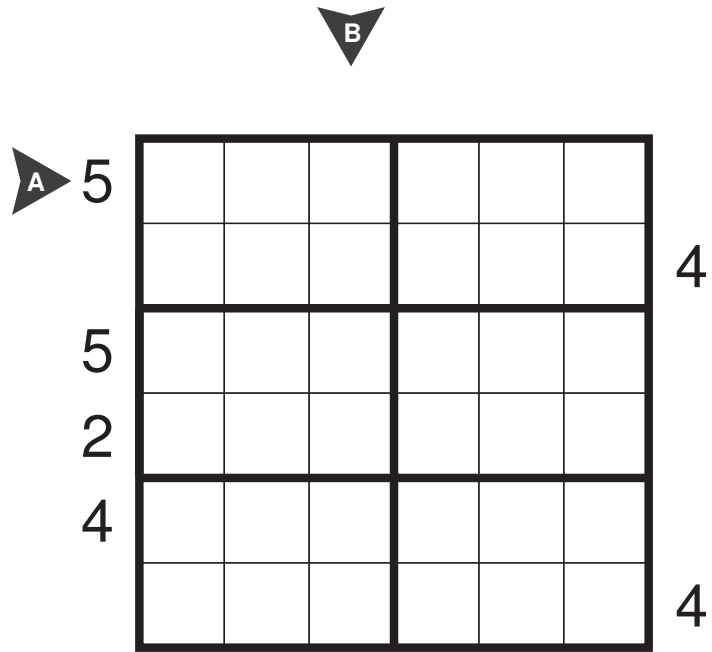
Edge markers: Triangle 'A' at left edge, Triangle 'B' at top edge.



## Skyscraper Sudoku

4 points

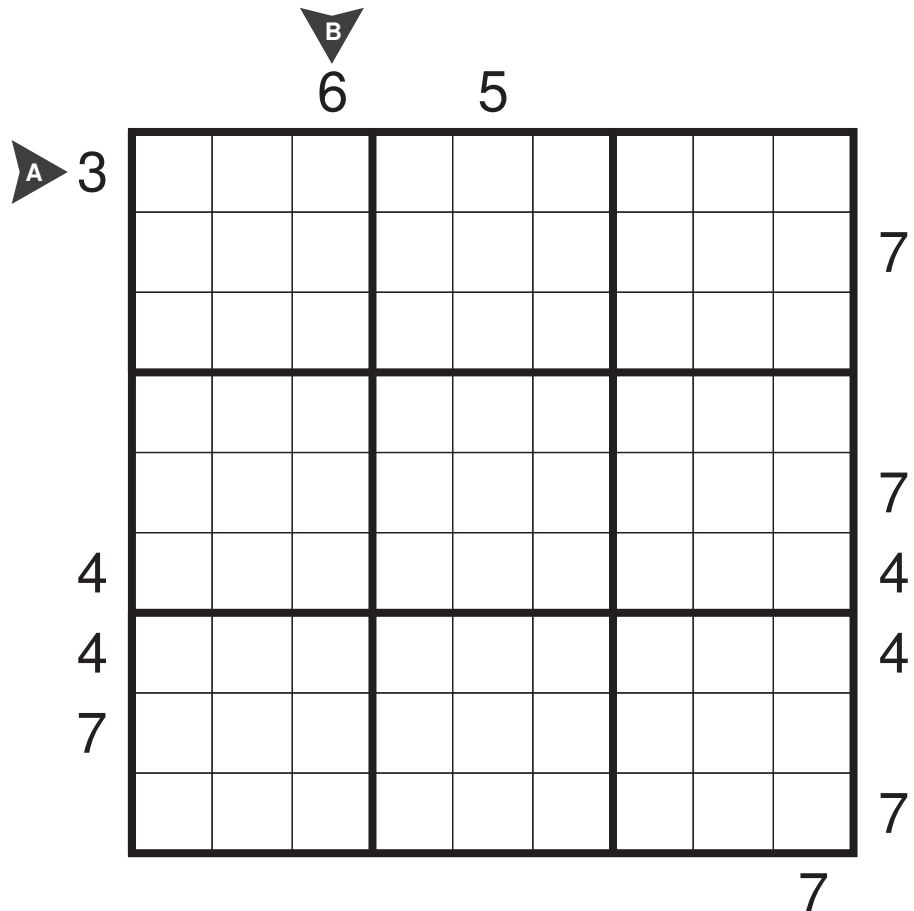
Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2x3 box. Consider each number to be the height of a building. The numbers outside the grid indicate how many buildings can be seen when looking in that direction (taller buildings conceal smaller buildings behind them).



## Skyscraper Sudoku

11 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3x3 box. Consider each number to be the height of a building. The numbers outside the grid indicate how many buildings can be seen when looking in that direction (taller buildings conceal smaller buildings behind them).



## Descriptive Pair Sudoku

4 points

Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2x3 box. For every pair of outside clues X and Y, at least one of these cases is true:

- (a) X is in the Y<sup>th</sup> position in that direction.
- (b) Y is in the X<sup>th</sup> position in that direction.

3 5							
5 6							
<b>A</b> 2 2							
2 6							
2 6							
1 3							

3 2 4
5 5 6
1
6

**B**

## Descriptive Pair Sudoku

15 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3x3 box. For every pair of outside clues X and Y, at least one of these cases is true:

- (a) X is in the Y<sup>th</sup> position in that direction.
- (b) Y is in the X<sup>th</sup> position in that direction.

2 6									2 1
2 9									2 1
<b>A</b> 1 7									4 1
3 9									3 5
2 3									2 3
5 2									5 1
6 3									3 7
2 3									5 4
2 4									3 2

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

**B**

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

### Next to 6 Sudoku

3 points

Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2x3 box.

Additionally the clues outside the grid indicate the numbers to be placed in the cells before and after the cell containing 6 (in any order) in the corresponding direction.

B  
▼

	1	5	1	4	3	1	4	4
--	---	---	---	---	---	---	---	---

5								
1 5								
<span style="font-size: 2em;">A</span> 4 5								
2 4								
3 4								
4								

### Next to 9 Sudoku

10 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3x3 box.

Additionally the clues outside the grid indicate the numbers to be placed in the cells before and after the cell containing 9 (in any order) in the corresponding direction.

B  
▼

	5	5	2	5	4	3	2	3	3	1
--	---	---	---	---	---	---	---	---	---	---

3										
1 4										
<span style="font-size: 2em;">A</span> 2 5			6							
3 8										
3 5					5					
2 3										
2 5							6			
5 6										
5										

## Distance Sudoku

4 points

Place the digits from 1 to 6 in every row, column and 2x3 box. Outside each row and column the distance between two digits in that row or column is given. The order of the digits is top to bottom and left to right.

						1-2:3
						2-3:4
						3-4:3
						4-1:4
						4-3:2
						1-5:4

B

2-5:3  
1-2:4  
2-3:3  
3-4:4  
4-1:2  
4-3:4

A

## Distance Sudoku

11 points

Place the digits from 1 to 9 in every row, column and 3x3 box. Outside each row and column the distance between two digits in that row or column is given. The order of the digits is top to bottom and left to right.

									4-8:6
									6-4:5
									6-3:7
									2-6:6
									5-1:6
									9-8:7
									9-2:6
									4-8:6
									4-5:5

B

1-7:7  
3-6:6  
5-3:7  
2-7:7  
8-4:2  
7-8:6  
8-9:5  
4-7:6  
9-5:5

A

Standard

2	6	3	1	5	4
4	1	5	2	6	3
6	2	1	4	3	5
3	5	4	6	1	2
5	4	6	3	2	1
1	3	2	5	4	6

Standard

5	6	2	1	3	4
1	3	4	6	2	5
6	2	3	4	5	1
4	1	5	2	6	3
2	5	1	3	4	6
3	4	6	5	1	2

Standard

3	1	4	5	6	2
6	2	5	1	3	4
5	3	1	2	4	6
2	4	6	3	5	1
1	6	3	4	2	5
4	5	2	6	1	3

Standard

3	4	2	5	6	1
6	1	5	2	4	3
5	2	1	6	3	4
4	3	6	1	2	5
2	5	4	3	1	6
1	6	3	4	5	2

Standard

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

Standard

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

Standard

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

Standard

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

Outside

		1	2	3	4	6		
							3	
1		1	4	5	2	3	6	3
		6	2	3	4	5	1	4
3	A	3	1	6	5	2	4	5
2		4	5	2	1	6	3	6
1		2	6	1	3	4	5	3
5		5	3	4	6	1	2	2
		5	1	3	1	2		

Skyscrapers

	A	5	1	2	3	4	6	5
		4	5	6	3	2	1	4
5		2	3	4	1	5	6	
2		5	6	1	2	3	4	
4		3	4	5	6	1	2	
		6	1	2	5	4	3	4

Outside

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

Skyscrapers


Descriptive Pairs


Next to 6


**Descriptive Pairs**

			B								
	3	2	3	2	9	1	3	6	1		
	7	9	3	4	5	9	4	7	4		
26	4	6	5	2	8	9	3	1	7	21	
29	1	9	8	4	7	3	5	6	2	21	
A	17	7	2	3	6	5	1	4	9	8	41
39	6	7	9	5	3	4	8	2	1	35	
23	8	5	2	1	9	7	6	3	4	23	
52	3	1	4	8	2	6	9	7	5	51	
63	5	8	6	3	1	2	7	4	9	37	
23	2	3	7	9	4	8	1	5	6	54	
24	9	4	1	7	6	5	2	8	3	32	
	3	5	2	1	2	3	6	1	7		
	4	5	7	5	4	2	8	8	9		

**Next to 9**

				B						
	5	5	2	5	4	3	2	3	3	1
	8	8	3	7	7	7	3	8	8	
3	9	3	7	5	8	2	1	4	6	
14	5	2	4	9	1	6	7	3	8	
A	25	8	1	6	7	3	4	2	9	5
38	6	4	5	1	2	3	9	8	7	
35	7	8	1	4	5	9	3	6	2	
23	3	9	2	8	6	7	5	1	4	
25	1	5	9	2	4	8	6	7	3	
56	4	7	3	6	9	5	8	2	1	
5	2	6	8	3	7	1	4	5	9	

**Distance**

			B			
	4	4	3	2	1	2
	3	4	4	3	2	5
A	1	6	3	2	5	4
	4	2	5	6	1	3
	6	3	1	5	4	2
	5	4	2	3	6	1
	2	5	4	1	3	6
	3	1	6	4	2	5

1-2:3  
 2-3:4  
 3-4:3  
 4-1:4  
 4-3:2  
 1-5:4

**Distance**

				B					
	9	4	8	7	8	2	5	3	1
	5	5	5	8	4	3	7	6	7
A	2	4	5	7	3	9	6	8	1
	9	3	8	6	1	2	5	7	4
	6	1	7	5	8	4	2	3	9
	3	8	2	9	7	1	4	5	6
	7	5	6	2	4	8	9	1	3
	1	9	4	3	5	6	7	2	8
	5	7	9	8	6	3	1	4	2
	4	6	3	1	2	5	8	9	7
	8	2	1	4	9	7	3	6	5

4-8:6  
 6-4:5  
 6-3:7  
 2-6:6  
 5-1:6  
 9-8:7  
 9-2:6  
 4-8:6  
 4-5:5