

LogicMastersIndia August' 2010 Sudoku Test

Qixi Festival - Chinese Valentine's Day

Date : 14th(00:00 GMT) ~ 16th(23:59 GMT) August – 2010

Time : 120 minutes

In late summer, the stars Altair and Vega are high in the night sky, and the Chinese tell the following love story, of which there are many variations:

A young cowherd named Niulang, came across seven fairy sisters bathing in a lake. Encouraged by his mischievous companion the ox, he stole their clothes and waited to see what would happen. The fairy sisters elected the youngest and most beautiful sister Zhinü to retrieve their clothing. She agreed to do so, but since Niulang had seen her naked, she agreed to his request for marriage. She proved to be a wonderful wife, and Niulang to be a good husband. They lived happily and had two children. But the Goddess of Heaven found out that Zhinü, a fairy girl, had married a mere mortal. The Goddess was furious and ordered Zhinü to return to heaven. (Alternatively, the Goddess forced the fairy back to her former duty of weaving colorful clouds, a task she neglected while living on earth with a mortal.) On Earth, Niulang was very upset that his wife had disappeared. Suddenly, his ox began to talk, telling him that if he killed it and put on its hide, he would be able to go up to Heaven to find his wife. Crying bitterly, he killed the ox, put on the skin, and carried his two beloved children off to Heaven to find Zhinü. The Goddess discovered this and was very angry. Taking out her hairpin, the Goddess scratched a wide river in the sky to separate the two lovers forever, thus forming the Milky Way between Altair and Vega.

Zhinü must sit forever on one side of the river, sadly weaving on her loom, while Niulang watches her from afar and takes care of their two children.

But once a year all the magpies in the world would take pity on them and fly up into heaven to form a bridge over the star Deneb in the Cygnus constellation so the lovers may be together for a single night, which is the seventh night of the seventh moon.

In 2010, this festival falls on August 16.

The following sudokus are based on this story.

纤云弄巧，飞星传恨，银汉迢迢暗渡。
金风玉露一相逢，便胜却人间无数。
柔情似水，佳期如梦，忍顾鹊桥归路！
两情若是长久时，又岂在朝朝暮暮！

Puzzle 1~8: Classic Sudoku Part

There are eight 9x9 classic sudokus relay as this way (in instruction book only two puzzles):

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

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

There are at limit 3 cells marked grey dots in previous puzzle, you can find out them by solve it. In example grey cells are {3,6,9}, it means cells marked with white dot in next puzzle are {3,6,9}, then you can put them into correct position by logic.

*Relay mode: Puzzle 1-> Puzzle 2, Puzzle 2-> Puzzle 3, Puzzle 3-> Puzzle 4, Puzzle 4-> Puzzle 5, Puzzle 5-> Puzzle 6, Puzzle 6-> Puzzle 7, Puzzle 7-> Puzzle 8.

Puzzle 9~16: Variants Sudoku Part

Fill in the grid using standard sudoku rules: each row, column and outlined 3x3 square should have each digit from 1 to 9 exactly once. Each of eight puzzles has one additional rule. You should determine each situation corresponding for which rule and solve them. The rules:

1. Diagonal Sudoku:

Both main diagonal should have different digits.

2. No Touch Sudoku:

Cells with the same digits could not touch even diagonally.

3. No Knight Step Sudoku:

Cells connected with a chess-knight move could not contain the same digits.

4. No Consecutive Sudoku:

In horizontally or vertically neighboring cells cannot occur consecutive digits (two digits differ by 1).

5. Touchy Sudoku:

Each digit touches vertically or horizontally, at least one consecutive digit. For example, every 3 touches at least one cell containing 2 or 4.

6. No 3 Odd/Even In Line:

In any vertical or horizontal sequence of 3 cells cannot occur neither 3 odd nor 3 even digits.

7. No Average Sudoku:

No cell could be average of two horizontally or vertically neighboring cells.

8. "Give Me Five" Sudoku:

Pairs (horizontally or vertically pair) of digits which sum or difference could not be 5.

**Note: Maybe you can find some situations corresponded for more than one rules. Then you should consider other situation and rule's combination.*

	A	B	C	D	E	F	G	H
Diagonal								
No Touch								
No Knight Step								
No Consecutive								
Touchy								
No 3 Odd/Even in Line								
No Average								
"Give Me Five"								

A

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

B

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

C

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

D

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

E

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

F

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

G

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

H

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

Diagonal

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

No Touch

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

No Knight Step

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

No Consecutive

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

Touchy

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

No 3 Odd/Even In Line

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

No Average

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

"Give me five"

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

By reply and match, the magpies all over the world (from the previous sixteen puzzles, in classic part are from 4 dot marked cells in the 8th puzzle, in variants part are from 2 dot marked cells of each puzzle, the 20 cells will be numbered in puzzle book, you only need to copy them to the 17th puzzle) know about the story, they come together to make the bridge. The bridge shows a pattern ♡. Classic and variants also come together, the following two puzzles (classic sudoku and jigsaw sudoku) have the same solution, use this rule to solve them.

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

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

Solution

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

There are 17 puzzles in total, in Chinese “17” pronounces “Yi Qi”, it means “together” in English.
At the end, we wish **all shall be well, Jack shall have Jill.**