INDIAN SUDOKU CHAMPIONSHIP 2010

ONLINE ROUNDS
3rd & 9th January 2010

First Online Round – 3rd January 2010
14:00 - 14:45 Classic Sudoku
15:00 - 15:45 Basic variants
16:00 - 16:45 Mixed Bag

Second Online Round – 9th January 2010
10:00 - 10:45 Classic Sudoku
11:00 - 11:45 Basic variants
12:00 - 12:45 Mixed Bag

INSTRUCTION
BOOKLET

Points Distribution

The tables below indicate the points awarded for correctly solving the sudokus which will appear in the online rounds of ISC 2010. The points are applicable for all rounds on both the days of the event. Points are generally indicative of the difficulty of the sudoku and time required to solve it. However your personal experience and preference might be different.

Part 1 : Classics (600 points)	
No. of Sudokus solved	**Points**
1	70
2	120
3	165
4	210
5	250
6	290
7	330
8	370
9	405
10	440
11	475
12	510
13	540
14	570
15	600

Part 2 : Basic Variants (700 points)	
Odd/Even	65
Sudoku XV	120
Diagonal	110
Consecutive	165
Irregular	130
Frame	110

Part 3 : Mixed Bag (700 points)	
Group Sum	180
Toroidal	180
No Knight Step	115
Outside	75
Quadraple	75
Magic Square Sudoku	75

Round 1
Classic Sudoku (45 minutes)
600 points

This part will consist of 15 classic sudokus, with a range of difficulties from very easy to difficult. Points will be scored according to the number of sudokus solved in this round as indicated in the points table.

Classic Sudoku
Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9.

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

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

Round 2
Standard Varitions (45 minutes)
700 points

Odd/Even Sudoku

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. Shaded cells contain the even digits while the others contain the odd digits.

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

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

Sudoku XV

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. All the adjacent cell pairs (sharing an edge) with two digits summing to 5 are marked by V, while those summing to 10 are marked by X. The cells edges which do not contain an X or a V cannot have digits summing to 5 or 10.

				6				
5								6
2								4
				5				

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

Diagonal Sudoku

Fill in the grid so that every row, every column, every diagonal and every 3x3 box contains the digits 1 through 9.

Puzzle:

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

Solution:

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

Consecutive Sudoku

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. Neighboring cells which contain consecutive digits are separated by white bars. Cells which are not separated by white bars cannot contain consecutive digits.

Solution:

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

Irregular Sudoku

Fill in the grid so that every row, every column and every outlined region of nine cells contains the digits 1 through 9.

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

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

Frame Sudoku

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. The numbers outside the grid represent the sum of first 3 digits inside the grid in the corresponding direction.

Puzzle grid — top clues: 16 16 13 24 6 15 10 18 17; left clues: 21 15 9 9 16 20 13 15 17; right clues: 10 14 21 20 18 7 11 22 12; bottom clues: 15 17 13 10 17 18 14 18 13. Given cells: row 3 col 1 = 1, row 3 col 9 = 8, row 7 col 1 = 4, row 7 col 8 = 3.

Solution grid (top clues: 16 16 13 24 6 15 10 18 17; bottom clues: 15 17 13 10 17 18 14 18 13):

21	8	9	4	7	1	6	3	2	5	10
15	7	2	6	8	3	5	1	9	4	14
9	1	5	3	9	2	4	6	7	8	21
9	3	4	2	1	8	7	9	5	6	20
16	6	1	9	4	5	2	8	3	7	18
20	5	7	8	6	9	3	4	1	2	7
13	4	8	1	5	7	9	2	6	3	11
15	2	6	7	3	4	1	5	8	9	22
17	9	3	5	2	6	8	7	4	1	12

Round 3
Mixed Bag (45 minutes)
700 points

Group Sum Sudoku
Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. The numbers in each circle indicates the sum of the digits in the cells covered by the corresponding circle.
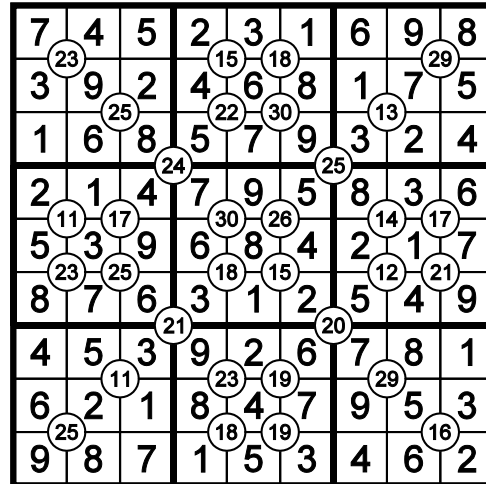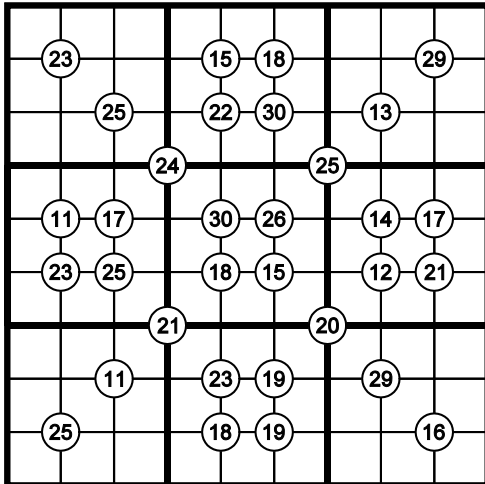
Toroidal
Fill in the grid with digits from 1 through 8 so that every row, every column and every outlined region contains distinct digits. Some of the outlined regions will wrap between the top and bottom edges, and/or the left and right edges of the grid.

No Knight Step Sudoku
Fill in the grid with digits from 1 through 8 so that every row, every column and every outlined region contains distinct digits. Some of the outlined regions will wrap between the top and bottom edges, and/or the left and right edges of the grid.

Puzzle grid:

9				4		6		7
	8			3			4	
6								
		8		5				
1	5						7	8
		9		4				
								4
	9		6			1		
2		8		9				5
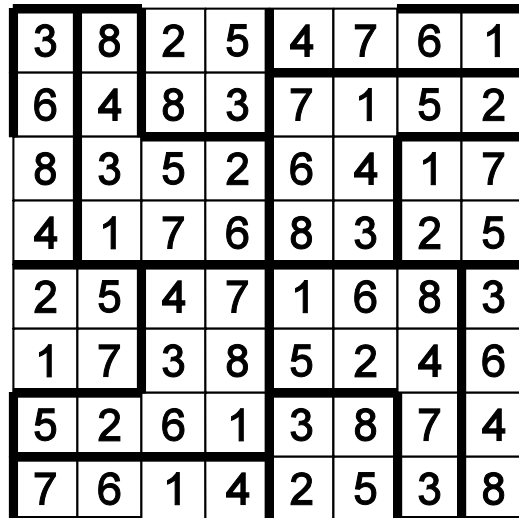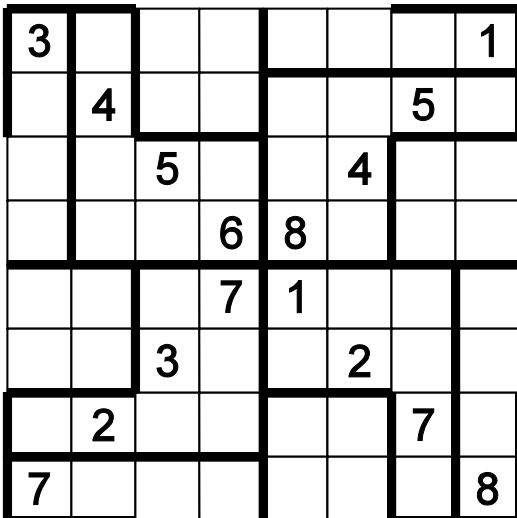
Solution grid:

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

Outside Sudoku
Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Outside digits must be inserted in the first 3 cells of the corresponding row or column.

Puzzle (outside clues):

Top clues:
```
              2                         2
    9  3      6      7         9  3     6      7
    4  1      8      3 5 1 7    4  1    8      3 5 1 7
```

Left clues / right clues (puzzle left grid):
```
 4 6  [ grid ]  3
 3 8            4 6
                1 5 8
    1           3
 3 4 9          6 8
   8 6          5 9
 5 7 9          2 9
    4           3 5
```

Bottom clues:
```
    1 7 9 3      2 1 7 2
              4       8
              8
```

Solution grid (right):

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

Quadraple Sudoku

Fill in the grid so that every row, every column and the 3x3 boxes contain the digits 1 through 9. Some intersections list the digits from the four adjacent cells.

Intersection labels (puzzle grid): 1469, 3567, 6789, 1356, 1367, 4578, 1378, 3456, 4689, 1389, 4589, 3469, 1278, 2357, 2458, 1468, 3789

Solution grid:

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

Magic Square Sudoku

Fill in the grid so that every row, every column and every 3x3 box contains the digits 1 through 9. The cells marked in grey form a perfect magic square. In a perfect magic square the sum of digits every row, every column and every diagonal is same.

Puzzle grid:

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

Solution grid:

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