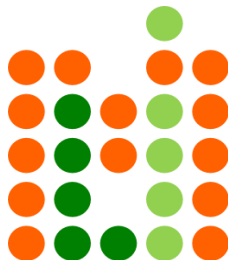


January 21st 2020

Session 1				
Classical Welcome	9:00 – 9:45	45 mins	450 Points	Individual
Basic Variants	9:55 – 10:55	60 mins	600 Points	Individual
Outside	11:10 – 12:10	60 mins	600 Points	Individual
Lunch Break				
Session 2				
Converse	13:30 – 14:30	60 mins	600 Points	Individual
Clueless	14:40 – 15:40	60 mins	600 Points	Individual
Team Round 1	16:15 – 16:35	20 mins	800 Points	Team
Team Round 2	17:10 – 17:30	20 mins	800 Points	Team



Competition Hall Rules

Each competitor has to sit at any of the pre-allocated desks of their respective teams in individual rounds. Teams have to work at their pre-allocated desks for team rounds.

Prior to the start of each round, competitors must ensure they are at their desks ready for the start of the round. Late arrivals may not be permitted to enter the competition hall to take part in a round at the discretion of the organizers.

Prior to the start of each round, competitors must clearly write their name, team and registration number on the front page of their competition booklet into the allocated space. If this information is not complete, then the organizers reserve the right not to award any points to that competitor for that round.

Competitors must not open their booklets before the official start of the round. When the signal for the start of the round has been given, competitors may open their booklets and begin solving the puzzles. During each individual round, competitors have to remain silent, unless declaring completion of a round.

During team rounds, team members may talk to each other, unless it is stated otherwise in the round's note, but should do this with respect to other teams.

To declare a round complete, a competitor must close the competition booklet, clearly state 'finished' and raise an arm with the booklet. The competitor's arm must be raised until the booklet is collected. The same rules apply for the team rounds.

Competitors or teams who complete a round more than five minutes in advance, are allowed to leave the competition hall quietly. Competitors or teams who complete a round with five minutes or less left are not allowed to leave their desks to not cause unnecessary disruption to fellow competitors. Competitors who leave the competition hall for any reason will be not allowed to continue in that round.

When the signal to finish a round is given, competitors have to stop solving immediately, close their booklets, put their pens/pencils down and their hands up with their booklets for collecting. At the end of a round, competitors have to remain seated until all booklets have been collected.

Mobile phones and electronic devices are not permitted to be used in the competition hall during the rounds. The devices have to be turned off and must not be placed on the competitor's desk.

Only team captains and official observers equipped with a name tag are allowed to enter the competition hall while either individual or team rounds are taking place. Other non-competing participants may enter the competition hall at the discretion of the organizers.

Competitors may not use cameras or other recording devices during rounds. Only observers may do so, at the discretion of the organizers. They have to respect the competitors and not use flash photography or cameras with excessive sounds.

When a competitor believes that there is a problem with a puzzle, they must clearly state that puzzle is wrong by writing 'Wrong puzzle' next to it. The competitor must not notify the organizers during the round. This will be investigated upon completion of the round.

Puzzles can be completed in any order within a round, unless it is stated otherwise in the round's note. The points' value of a puzzle is an indication of its expected difficulty, although individual solving experience may differ. The difficulty of an example puzzle does not necessarily reflect the difficulty of the corresponding competition puzzle.

The boxes above each puzzle are reserved for markers' notes. Competitors must not write in the boxes.

Permitted items which can be used in the competition hall, unless stated otherwise, are: pens, pencils, pencil sharpeners, erasers, rulers, scales, blank papers and instruction booklets annotated with notes regarding puzzle instructions and preparation notes.

Drinks and snacks are permitted as long as they do not disturb other competitors with a strong smell or rustling packet.

It is strictly forbidden to use electronic devices such as music players or headphones or any type of calculator. Use of such equipment may lead to the disqualification of the competitor.

Any other items brought into the hall must be kept in a bag on the floor and placed under the competitor's desk, so as not to block the aisles.

When a round has been evaluated, fully marked booklets are returned to a team member of the respective country.

In case of any query after a booklet has been returned to a competitor, the query must be raised within the specified time. The booklet should be left with the organizers for investigation.

Puzzles may be photographed during the marking phase in order to prevent subsequent interventions.

Team captains are responsible for ensuring that any information given to them related to the competition is effectively relayed to their team.

In case of a major mistake in one of the rounds, organisers reserve the right to cancel the round, either by removing it from the schedule, or by not rewarding any points for it to any of the competitors.

The official competition booklets will not contain examples given in the instruction booklet. Therefore, we recommend bringing the Instruction Booklet, which contains an example of every Sudoku that will be part of the championship.

In the team rounds, the official competition booklets may not contain the instructions of Sudokus, only the names. It is advised to bring at least one Instruction Booklet for a team for these rounds.

In any case of inconsistency between the instruction booklet and the official competition booklets, e.g. instructions or points, the information in the final version of the instruction booklet will be considered valid.

In the competition hall, a timer counting down to the end of the round will be visible for all the competitors.

Scoring and Bonus

Points will be awarded only for fully and correctly solved puzzles. In general, there are no partial points unless it is stated otherwise in the round's note.

In individual rounds, the bonus points for a round for each full remaining minute will be awarded to any competitor who correctly solves all the Sudokus in the round.

In team rounds, the bonus points for a round for each full remaining minute will be awarded to any team who correctly solves all the Sudokus in the round.

At the judge's discretion, 0.8 x bonus, rounded to the closest integer, will be awarded in the case of a single minor mistake in no more than one Sudoku. A minor mistake is considered as at most two incorrectly filled cells in at most one of the Sudokus.

All the examples in the instruction booklet were made by the organizing team. They cannot be commercially used. All rights have been reserved.

Any breach of these rules may lead to a competitor or team being disqualified from the round or competition. The decision of the tournament officials is final.

Glossary

Odd and Even

Odd digits are 1, 3, 5, 7, 9.

Even digits are 2, 4, 6, 8.

Parity

Even and odd are different parities. Two digits have the same parity if they are both even or both odd.

Adjacent and Neighbouring

Cells sharing an edge are adjacent. A cell can have a maximum of four adjacent cells.

Cells sharing an edge or a corner are neighboring. A cell can have a maximum of eight neighbouring cells.

mxn box

A mxn box is a box with 'm' rows and 'n' columns.

Touching

Digits that share an edge or a corner touch each other.

Knight

A knight, as in chess, moves two steps in one direction and one step in a perpendicular direction.

	X		X	
X				X
		•		
X				X
	X		X	

Identical digits

Identical digits are digits that are exactly the same.

Cage

Cages are areas marked with a dashed line within a grid.

Consecutive

Two digits are consecutive if their difference is 1.

Arithmetic progression

A sequence of digits is in arithmetic progression if every consecutive pair of digits in the sequence have the same difference.

The difference cannot be 0.

Checkerboard

A checkerboard pattern is a 2x2 area of cells where the top-left and bottom-right cells are of one type and the top-right and bottom-left cells are of another type.

Partial Points

For Sudokus with partial points, the points will be awarded only if it is part of the overall solution.

1 CLASSICAL WELCOME

450 Points

45 Minutes

10x Bonus

Individual

Round Note: This round has 12 classic Sudokus of size 6x6.

1. Classic Sudoku

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box.

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

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

2 Basic Variants

600 Points

60 Minutes

10x Bonus

Individual

Round Note: This round has 2 classic Sudokus and 10 Basic Variants.

1,2. Classic Sudoku (6x6)

20,20 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box.

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

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

3,4.Extra Region Sudoku (6x6)

20,40 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Marked grey areas also contain distinct digits 1 to 6.

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

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

5,6. .Diagonal Sudoku (6x6)

75,95 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Each main diagonal contains distinct digits.

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

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

7,8.Disjoint Sudoku (6x6)

45,40 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Digits in each relative position in a 3x3 box are distinct.

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

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

9,10 .Irregular Sudoku (6x6)

40,120 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and bold outlined regions.

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

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

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Cells with a circle can contain only odd digits. Cells with a square can contain only even digits.

1					2
	2				
		3			
			4		
				5	
3					1

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

3 Outside

600 Points

60 Minutes

10x Bonus

Individual

Round Note: This round has 4 classic Sudokus and 8 Variants.

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box.

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

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

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Digits outside the grid represent the sum of the first two cells seen from that direction.

7,8.Next to 6 Sudoku (6x6)

50,35 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Clues outside the grid indicate the digits that surround the digit 6.

2					
3 1					
4					
1 4					
4 3					
4 3					

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

9,10.Outside Parity Sudoku (6x6)

80,70 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Clues outside the grid indicate the number of digits of the same parity, seen first in that corresponding direction.

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

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

11,12.Skyscraper Sudoku (6x6)

70,90 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Each number represents the height of the skyscraper in each cell. The digits outside the grid indicate the number of skyscrapers seen from the corresponding direction.

2					
			3		
3	2				
4					3
3		2			

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

4 Converse

600 Points

60 Minutes

10x Bonus

Individual

Round Note: This round has 2 classic Sudokus and 10 Variants.

1,2,3,4. Classic Sudoku (6x6)

45,40,35,40

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box.

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

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

5,6..Anti-knight Sudoku (6x6)

40,40 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. No digit can repeat in a cell which is at a knight's step from itself.

2					4
	1			5	
	5			1	
6					1

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

7,8.Average Sudoku (6x6)

100,110Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. If the number in a cell equals the average of its two horizontal (vertical) neighbours then the cell is marked with a horizontal (vertical) line. All possible lines are marked.

1			4		
2					

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

9,10 Non-Consecutive Sudoku (6x6)

20,20 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Adjacent cells cannot contain consecutive digits.

4					3
	4			5	
	1			2	
3					2

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

11,12..Untouch Sudoku (6x6)

45,45 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Same numbers cannot touch each other, even diagonally.

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

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

5 Clueless

600 Points

60 Minutes

10x Bonus

Individual

Round Note: This round has 4 classic Sudokus and 8 Variants.

1,2,3,4. Classic Sudoku(6x6)

20,25,25,20

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box.

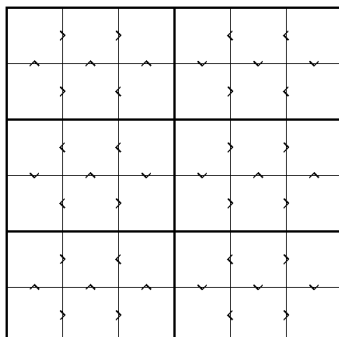
	4		6		
5	1				
			1		2
4		1			
				2	3
		2		6	

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

5,6.Greater Than Sudoku (6x6)

35,40 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. There are 'greater than' (>) and 'less than' (<) signs. The cell with the open end of the sign should be greater than the cell with the closed end of the sign.

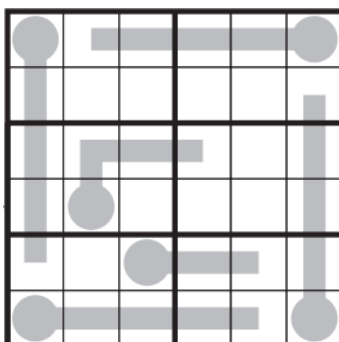


4	>	2	>	1	3	<	5	<	6
5	>	3	<	6	2	>	1	<	4
3	<	4	<	5	6	>	2	>	1
1	<	6	>	2	5	>	4	>	3
2	>	1	<	3	4	>	6	>	5
6	>	5	<	4	1	<	3	<	2

7,8.Thermo Sudoku (6x6)

80,40 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Some thermometer shapes are given in the grid; digits must be strictly increasing from the round bulb to the flat end.

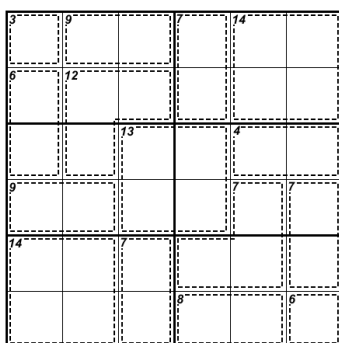


1	6	5	4	3	2
3	4	2	1	5	6
4	2	3	6	1	5
5	1	6	3	2	4
6	5	1	2	4	3
2	3	4	5	6	1

9,10.Killer Sudoku (6x6)

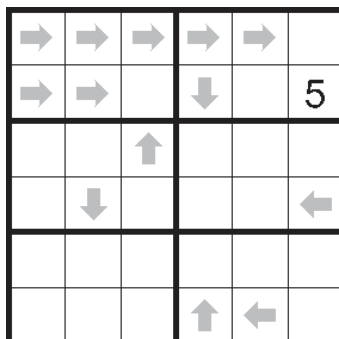
100,80 Points

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. Number on the top left of the cage indicate the sum of all the digits in that cage. Digits cannot repeat in a cage.



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

Place a digit from 1 to 6 into each of the empty cells so that each digit appears exactly once in each row, column and 2x3 outlined box. The arrows in the grid point to the digit 6 in that respective row or column. The digit in the cell with an arrow is the distance of that arrow from the digit 6 it points to.



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

6 How does it add up?

800 Points

20 Minutes

10x Bonus

Team

There will be 4 sudokus to be solved. There will be a fifth grid given which has numbers given inside it. The numbers in the fifth grid are the sum of digits in all the four other grids at the respective positions. Digits cannot repeat in such positions.

Extra Region Sudoku : Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. Marked shapes also contain digits 1 to 6 without any repetition.

Even Sudoku: Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. Cells with a grey square can contain only even digits.

Fortress Sudoku: Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. If a shaded cell and a white cell are orthogonally adjacent then the shaded cell has the greater value.

Odd Sudoku: Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. Cells with a grey circle can contain only odd digits.

	1				5
5				1	
				5	
1		6			
	2				3
3				2	

Extra Region Sudoku

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

	3				2
2				1	
1		3			
	1				6
6				2	

Even Sudoku

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

	1				4
6				2	
2		3			
	2				3
1				5	

Fortress Sudoku

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

	3				1
2				5	
4		3			
	4				6
3				1	

Odd Sudoku

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

The Sum grid is presented on the next page.

18					
	18				
		10			
			10		
				18	
					18

Sum Grid for Team Round 6

7 Bridged Skyscrapers

800 Points

20 Minutes

10x Bonus

Team

There will be 6 sudokus to be solved on an A3 sheet. The puzzles will be arranged in a 2x3 matrix. There will be circles marked between adjacent grids. The circles will act as skyscraper rules in both directions. The skyscraper value is to be determined as part of solving. Puzzles in the competition will be 6x6 grids.

Renban Sudoku: Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. Marked lines contain a series of consecutive numbers, not necessarily in order.

Palindrome Sudoku: Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. Digits along the marked line form a palindrome. They read the same in both directions.

Untouch Sudoku: Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. Same digits cannot touch each other, not even diagonally.

Thermo Sudoku: Fill the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. Some thermometer shapes are in the grid; digits must be strictly increasing from the round bulb to the flat end.

Arrow Sudoku: the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. The sum of the digits along an arrow are equal to the digit in the circle on that arrow. Digits may repeat along the arrow.

Diagonal Sudoku: the grid such that every row, column and 2x3 box contains the digits 1 to 6 without repetition. The two marked diagonals also contain distinct digits from 1 to 6.

The 6 puzzles in the competition will be in the order presented below.

Renban Sudoku	Palindrome Sudoku	Untouch Sudoku
Thermo Sudoku	Arrow Sudoku	Diagonal Sudoku

				3	
					4
					6
5					
1					
	6				

○ ○ ○ ○

1					3
	2			1	
		5	6		
					4

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

○ ○ ○ ○

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