## Sudoku Déjà Vu

## Hosted by Logic Masters India <br> October 2018

## Puzzles set by David McNeill <br> Tested by Rakesh Rai

Thank you for opening the instruction booklet for Sudoku Déjà Vu. I hope you will have a go at this unusual competition. You will need more than Sudoku solving skills but l'll let the instruction booklet speak for itself.

## Details

- The test will last for 90 minutes
- The competition booklet will have 10 pages, each with a single puzzle
- Each puzzle has 2 marked rows for solution entry
- When submitting solutions, enter the digits in the marked rows in order
- Instant grading will be used
- On-line solving is available
- The puzzle points are shown in the table below
- Solvers who complete all puzzles correctly within the time can claim 1 bonus point for every full minute saved

| Points Table |  |  |  |  |
| :---: | :--- | :---: | :---: | :---: |
| Puzzle |  | Points |  |  |
| 1 | Classic | 3 |  |  |
| 2 | Classic | 6 |  |  |
| 3 | Diagonal | 10 |  |  |
| 4 | Anti-Knight | 11 |  |  |
| 5 | No Four in a Grow | 11 |  |  |
| 6 | Déjà Vu | 9 |  |  |
| 7 | Déjà Vu | 10 |  |  |
| 8 | Déjà Vu | 12 |  |  |
| 9 | Déjà Vu | 14 |  |  |
| 10 | Déjà Vu | 14 |  |  |
|  | Total Points |  |  | 100 |

I hope you enjoy the adventure. Good luck.

## Classic Example

Complete the grid so that each row, column and $3 x 3$ box contains the digits 1-9.

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

## Diagonal Example

Complete the grid so that each row, column and $3 \times 3$ box contains the digits 1-9. In addition, each of the marked diagonals must also contain the digits 1-9.

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

## Anti-Knight Example

Complete the grid so that each row, column and $3 x 3$ box contains the digits 1-9. In addition, no digit can be a knight's move away from an identical digit.

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

## No Four in a Grow Example

Complete the grid so that each row, column and $3 \times 3$ box contains the digits 1-9. In addition, no sets of ascending or descending digits can appear in 4 consecutive cells in any row or column.

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

## Déjà Vu Example

Complete the grid so that each row, column and $3 \times 3$ box contains the digits 1-9. The contents of the shaded cells must obey additional constraints already exhibited in an earlier puzzle in this booklet.

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

Sudoku Déjà Vu: Instruction Booklet Solutions

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

Classic

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

Diagonal

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

Anti-Knight

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

No Four in a Grow

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

Déjà Vu

The extra constraint in the Déjà Vu puzzle had already been seen in the Diagonal Example, where the given digits formed six 3 -digit square numbers. The shaded squares in the Déjà Vu puzzle were in exactly the same arrangement and, therefore, had to be filled so as to form six 3 -digit square numbers.
Just for fun, solvers might like to spot the constraints in the Classic, Anti-Knight and No Four in a Grow examples if they haven't already done so. The constraints are exhibited by the given digits and might be easier to spot before solving the puzzles.

