The Odd Couple – Full Solution Guide

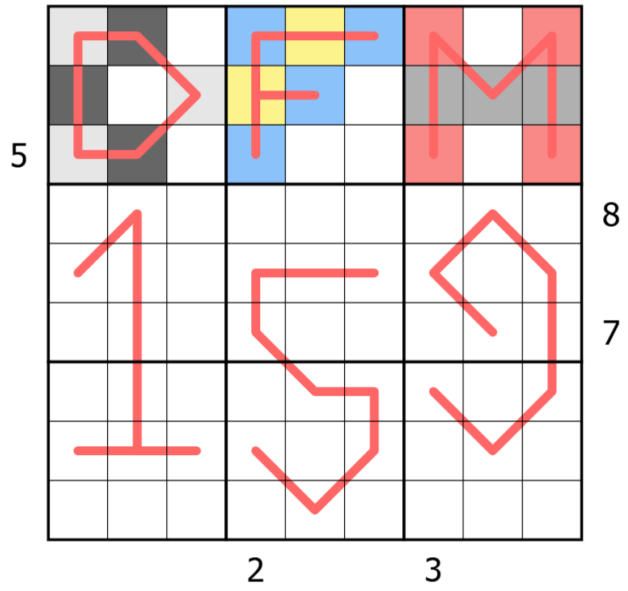
This is a full solution guide to my puzzle *The Odd Couple*, and so spoilers are ahead.

Rules

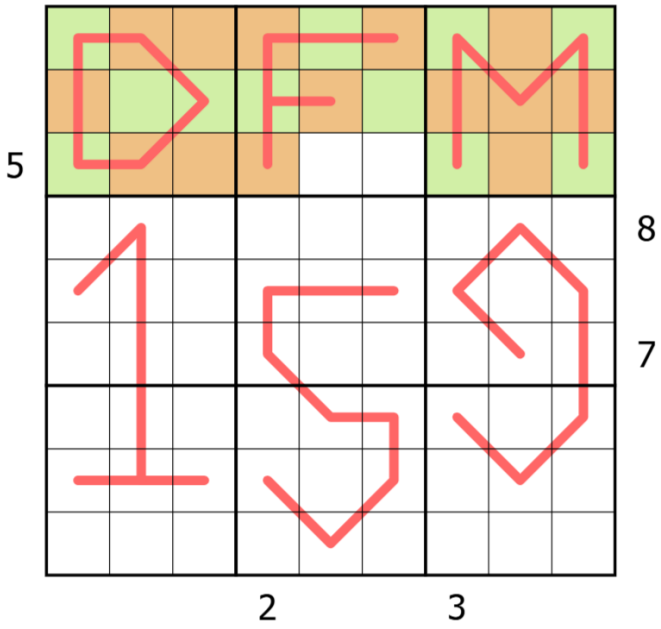
- Normal sudoku rules apply: Place the digits 1 to 9 once each in every row, column, and 3x3 box
- **Dutch Flat Mates**: Every 5 in the grid must have a 1 directly above it or a 9 directly below it. It may have both, but it doesn't need both
- **Parity Line**: Two adjacent cells along a red parity line must contain one odd and one even digit
- **Numbered Rooms**: Clues outside the grid give the digit to be placed in the Nth position in that row or column, where N is the digit in the first position

Solve Path

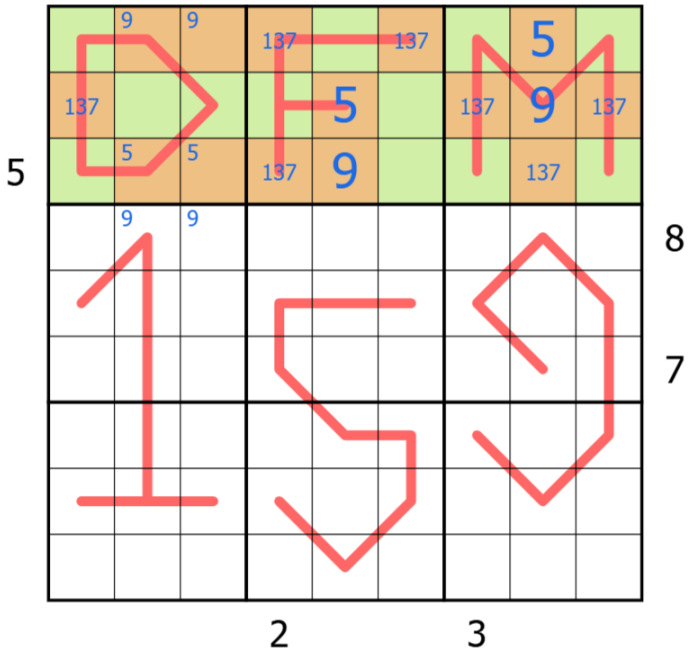
- Parity shading the lines in rows 1 to 3 in arbitrary colours, we find that row 2 contains five of some parity, therefore the three cells in box 3 must be odd, and R2C2, R2C6 are even



- Changing to use Orange for Odd digits, and greEN for evEN, we can complete the colouring in box 3
- By count, R1C4 etc. must be odd in box 2
- If R1C2 were even, we would have too many evens in column 2, so this must be odd

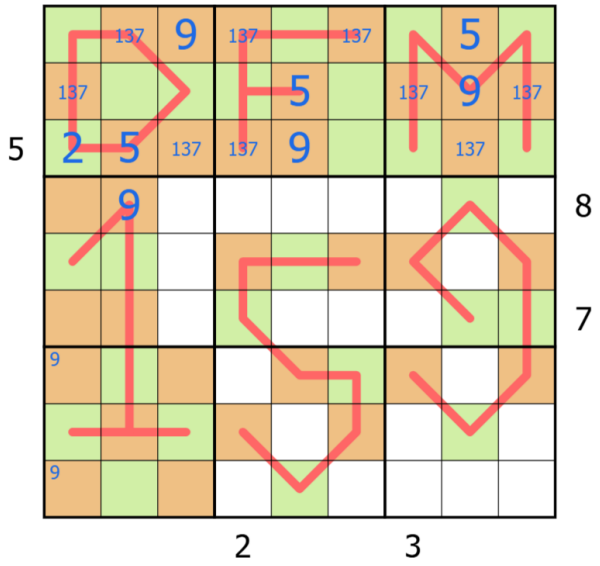


- In row 1, there is only one odd cell that has an odd cell under it, so R1C8 must be 5 with 9 below
- In row 2, all of the odd cells other than R2C5 can't have either a 1 above or a 9 below, so R2C5 contains 5 and must have a 9 below, completing the colours in box 2
- 5 is roughly placed in box 1, and must have a 9 below

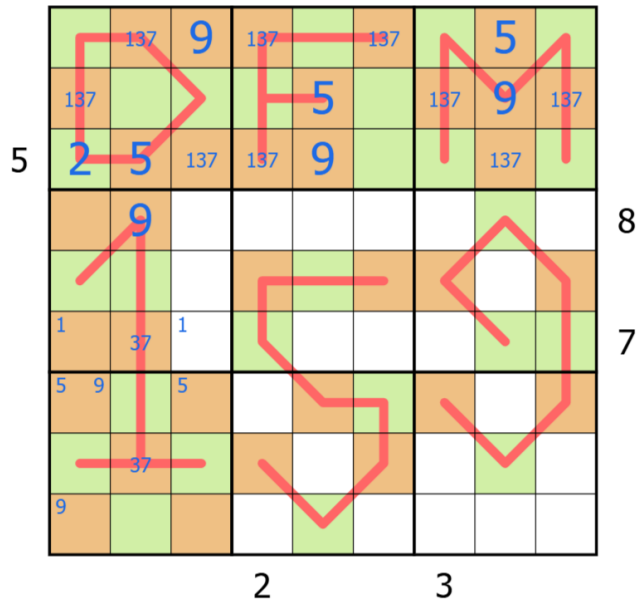


- Some 137 triples can be marked
- The row 3 numbered rooms clue tells us that R3C2 is a 5, placing a 9 below and allowing most of boxes 4 and 7 to be shaded
- R4C8, R6C8 and R8C8 are all the same parity, and if these were odd we would have too many odds in the column, so these are even, allowing shading of most of boxes 6 and 9

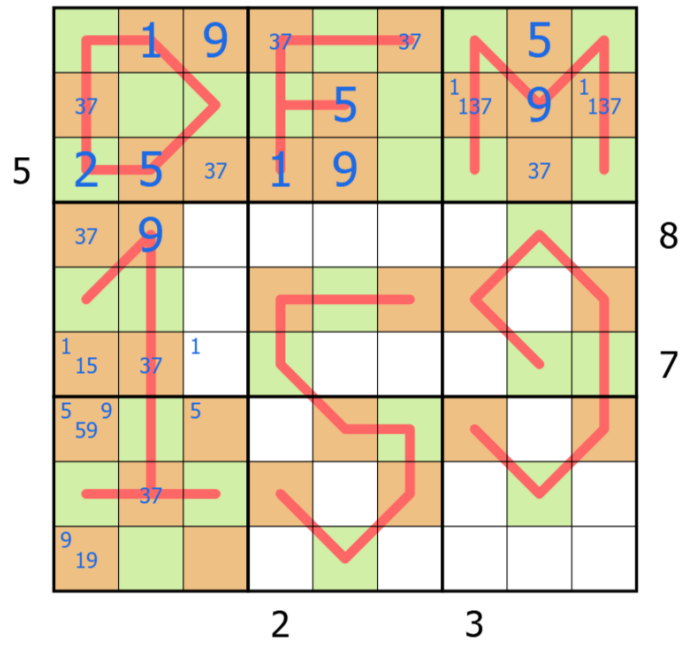
- R8C4 and R8C6 are the same parity, and if these were even we would have too many evens for the row, so these are odd allowing shading of most of box 5



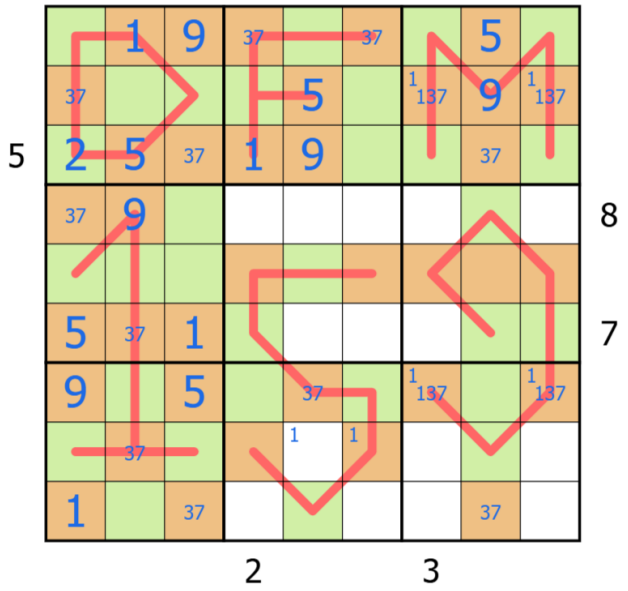
- 5 in box 7 must be in row 7, and it must have a 1 above
- In column 2, R6C2 isn't a 1 by these pencilmarks, and R8C2 isn't a 1 as this needs to go above the 5 in row 9, hence R1C2 is the only place for 1 in column 2



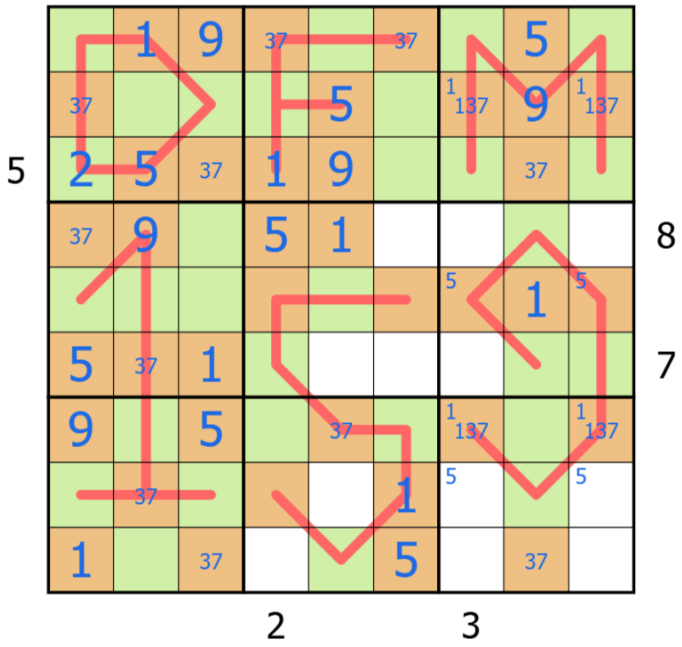
- 9 is placed in box 1, and 37 pairs can be marked in box 4, and 159 triple in column 1
- The 5 in column 3 must have a 1 above, and the only valid place in R7C3, which also places 5 in R6C1 with a 9 below



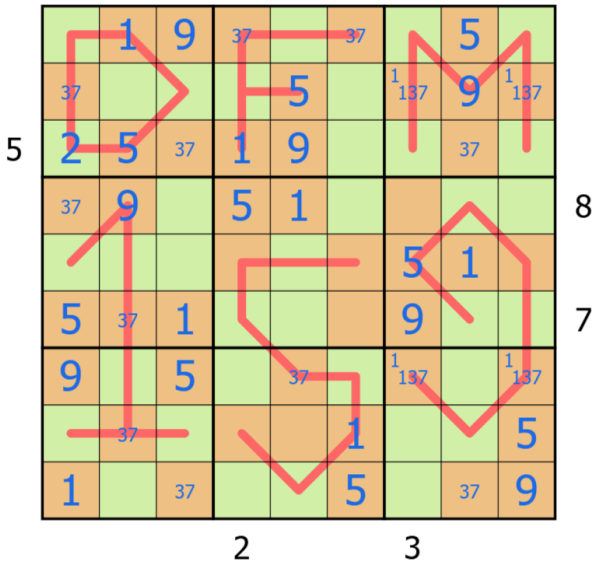
- Row 7 has a 137 triple, with the 1 in box 9
- This means the 5 in row 9 only has one location where it can have a 1 above which is R9C6



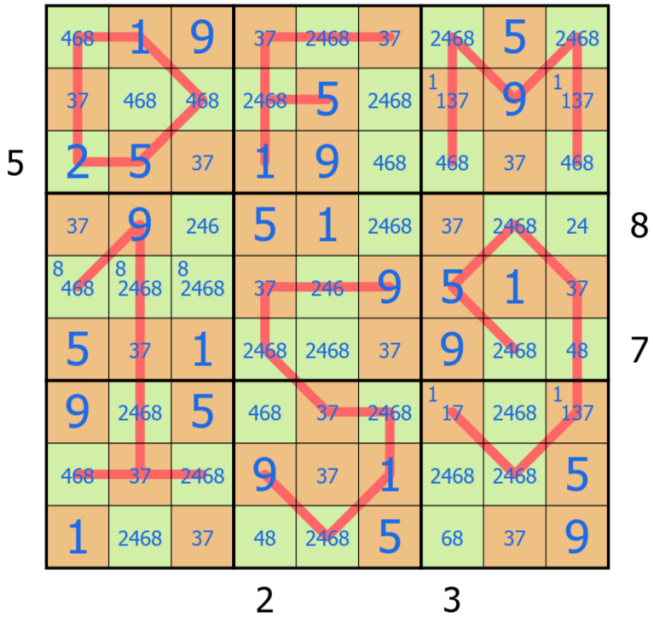
- Some 1 5 9 digits are placed by sudoku



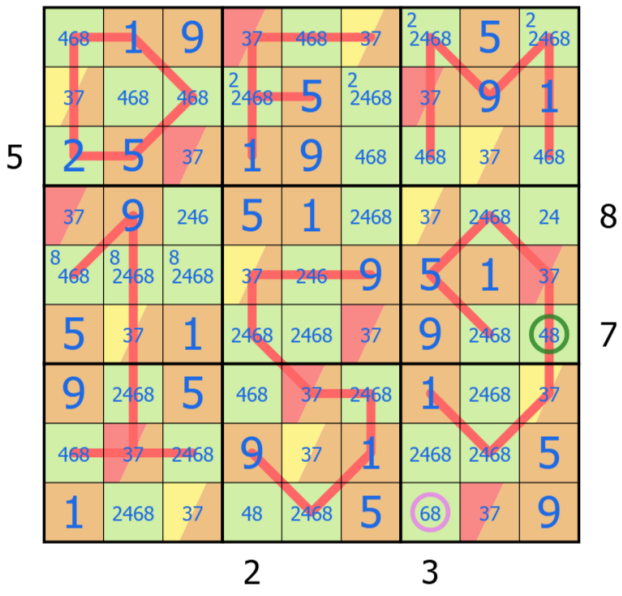
- With sudoku we should be able to place all 5s and 9s, and most 1s, and colour the whole grid



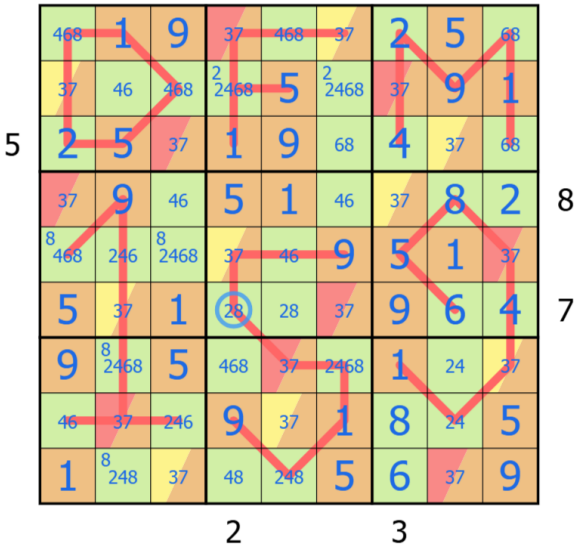
- We can consider the numbered rooms clues based on where the clued digits can go in the row or column. Each clue is reduced to two options



- Colouring our 37 pairs we can place the last two 1s based on cells which see both flavours of 37
- Then consider the 3 and 7 numbered rooms clues in conjunction. Universe A is R9C7 is a 6 and R6C9 is a 4. Universe B is that both are 8s. Universe B leaves nowhere to place 8 in column 8, so Universe A must be correct
- This also places the 8 in row 4 by the numbered rooms clue



- Consider the 2 numbered rooms clue. If R9C4 were 8, this would place 2 in R2C4 and leave no options for R6C4, hence R9C4 is 4, R6C4 is 2



- Sudoku to finish