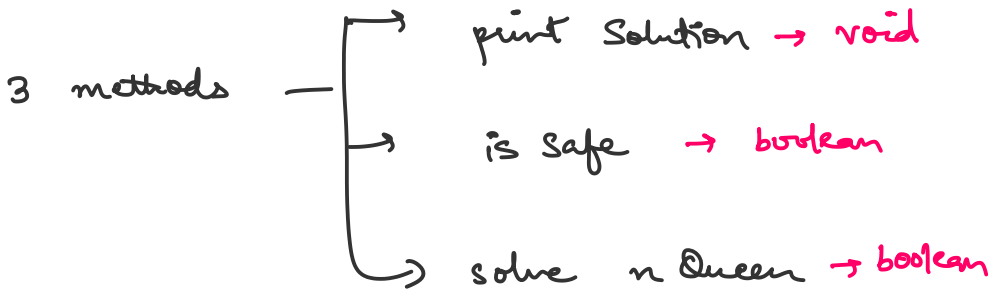
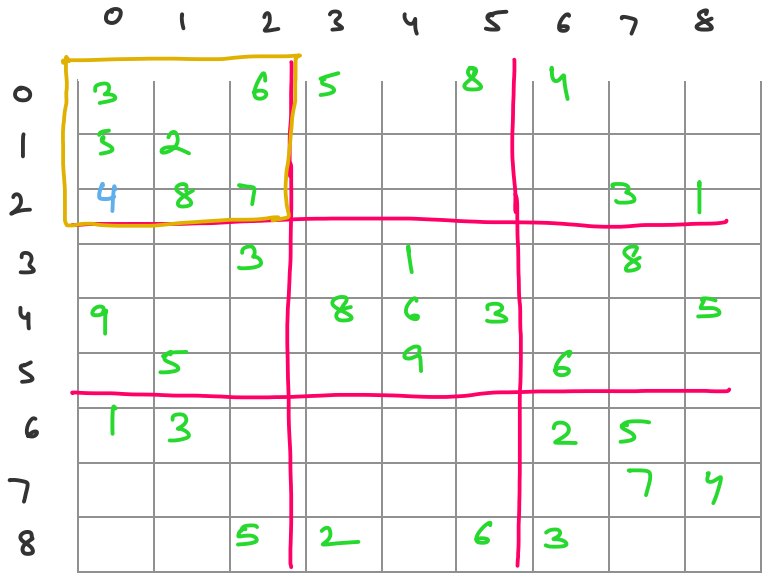
8. Repeat steps 4-7 untill all possible configurations have been explored.



Solve Sudoku

Given a partially filled 2D grid of size 9*9, the goal is to assign numbers (1-9) to the empty in such a way that the instance of the number should be exactly once in the row, column and the subgrid.



[1, 2, 3, 4, 5, 6, 7, 8, 9]

2, 3, 5, 6, 7, 8

↓

1, 4, 9

Algorithm / steps –

1. Create a function to check that after assigning a value to the empty cell will the grid becomes safe or not.

↓

For this we can use either a

hashmap or loops.

↓

If a number has a frequency greater than 1 then return false otherwise return true.

2. create a recursive function that operates on the given grid.

3. check for unassigned location —

(i) If present then assign a number from 1 to 9.

(ii) Check if after assigning the number if grid becomes safe or not.

(iii) If safe then call recursive call for all the safe cases from 0 to 9.

(iv) If any of the recursive call returns

true then end the loop and return true.

If no recursive call returns true then return false.

3. If no unassigned location is left then return true.