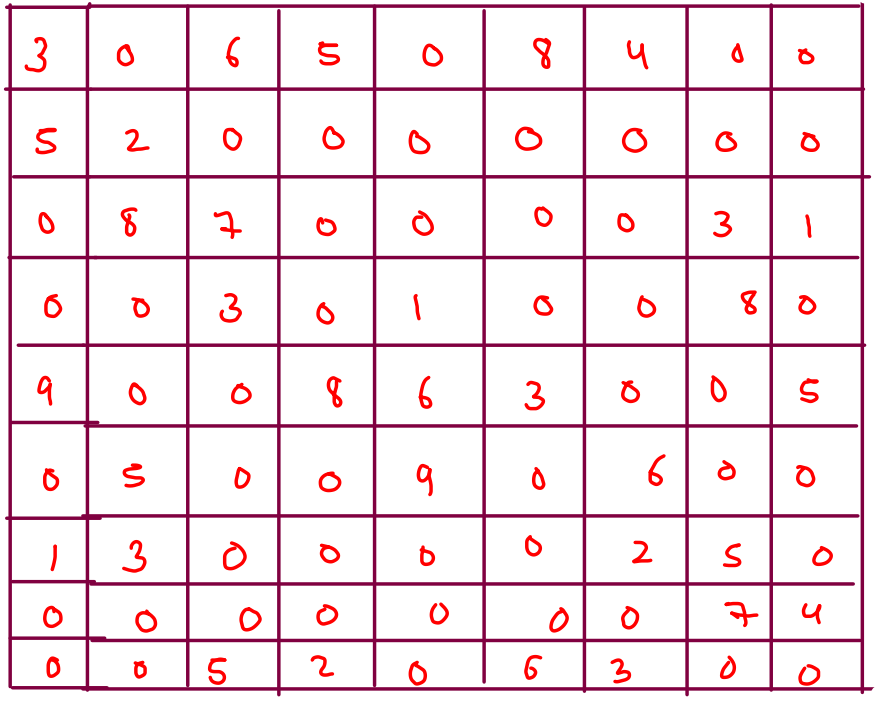
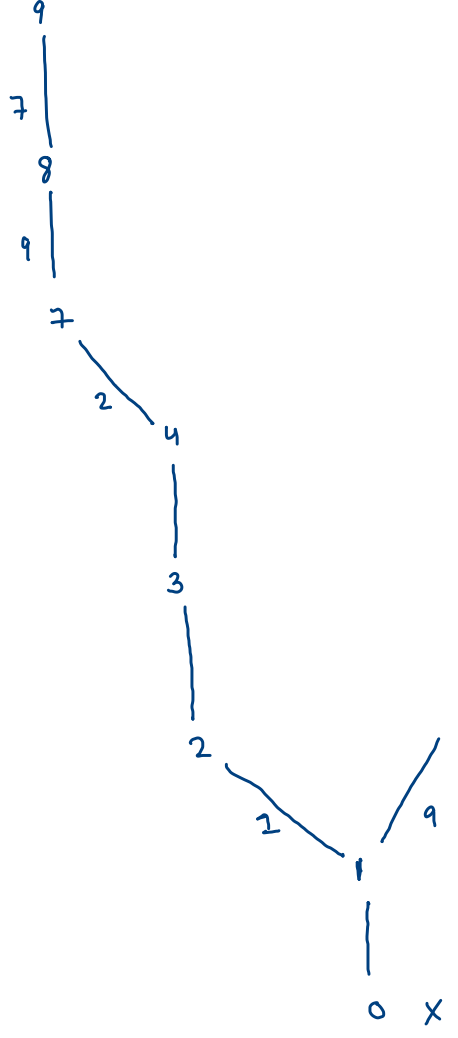
Solve Sudoku

3 0 6 5 0 8 4 0 0
5 2 0 0 0 0 0 0 0
0 8 7 0 0 0 0 3 1
0 0 3 0 1 0 0 8 0
9 0 0 8 6 3 0 0 5
0 5 0 0 9 0 6 0 0
1 3 0 0 0 0 2 5 0
0 0 0 0 0 0 0 7 4
0 0 5 2 0 6 3 0 0



3	1	6	5	0	8	4	9	7
5	2	4	1	3	7	8	0	0
0	8	7	0	0	0	0	3	1
0	0	3	0	1	0	0	8	0
9	0	0	8	6	3	0	0	5
0	5	0	0	9	0	6	0	0
1	3	0	0	0	0	2	5	0
0	0	0	0	0	0	0	7	4
0	0	5	2	0	6	3	0	0

81 → base case



box. no

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//ith row check
for(int c = 0 ; c < 9;c++) {
    if(board[i][c] == d) {
        return false;
    }
}

//jth col check
for(int r = 0;r < 9;r++) {
    if(board[r][j] == d) {
        return false;
    }
}

//submatrix check
int smrs = (i/3)*3;
int smcs = (j/3)*3;

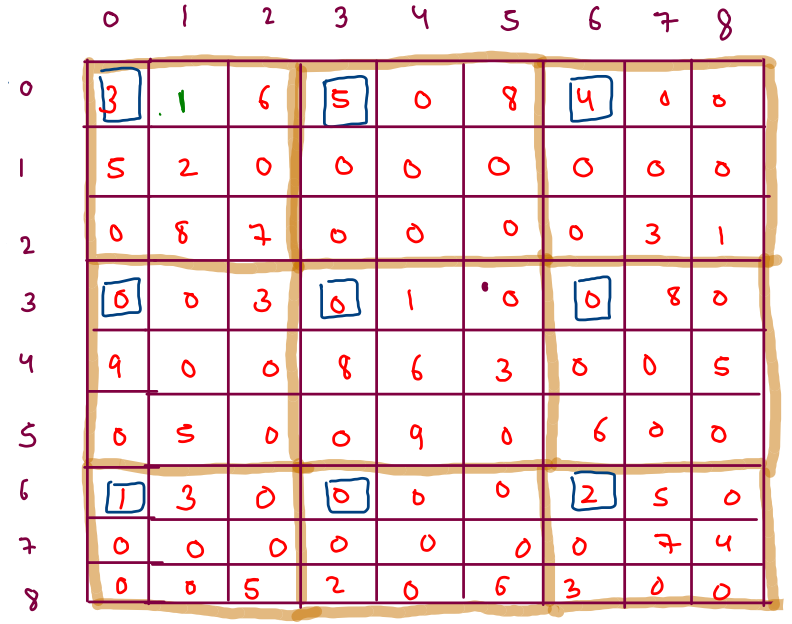
for(int r = 0; r < 3;r++) {
    for(int c = 0; c < 3;c++) {
        if(board[smrs + r][smcs + c] == d) {
            return false;
        }
    }
}

return true;
```

3, 5
i j

smrs = 3

smcs = 3



i, j

Submatrix : 3 x 3

smrs = (i / 3) * 3

smcs = (j / 3) * 3

r = 0, c = 0, 1, 2

r = 1, c = 0, 1, 2

r = 2, c = 0, 1, 2

X

(i) perfect Fit

	0	1	2	3	4	5	6	7	8	9
0	+	L	+	+	+	+	+	+	+	+
1	+	O	+	+	+	+	+	+	+	+
2	+	N	+	+	+	+	+	+	+	+
3	+	D	E	L	H	I	+	+	+	+
4	+	O	+	-	+	C	+	+	+	+
5	+	N	+	+	+	E	+	+	+	+
6	+	+	+	+	+	L	+	+	+	+
7	+	+	A	N	K	A	R	A	+	+
8	+	+	+	+	+	N	+	+	+	+
9	+	+	+	+	+	D	+	+	+	+

3,5
V

Ireland

7,2
h

Ankara

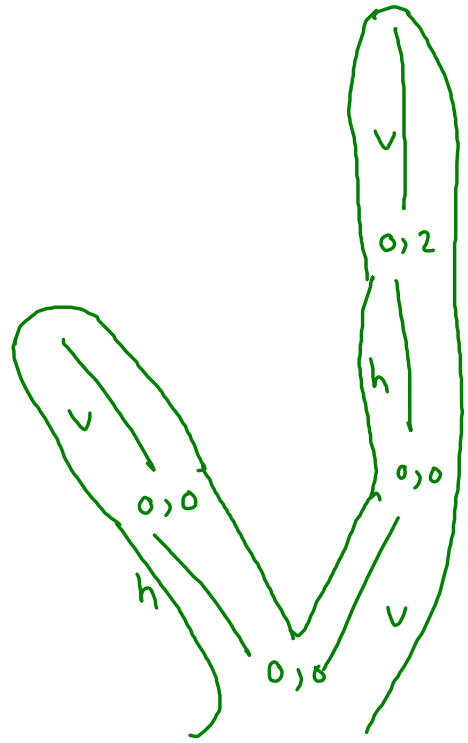
0,1
V

London

3,1
h

Delhi

	0	1	2	3
0	P	E	A	K
1	E	+	t	+
2	R	+	e	+
3	K	+	+	+



ate

Peak

Perk

Perk

Peak

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