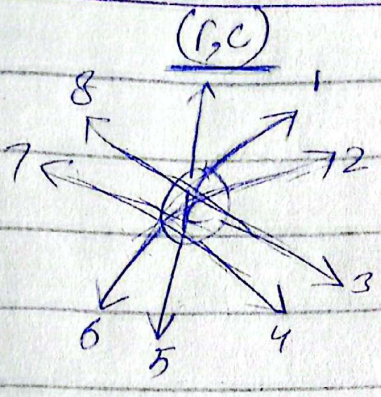
Knights Tour Problem

$n = 3$

0	3	6
5	8	1
2	7	4



Total 8 positions

① r-2, c+1 ② r-1, c+2

③ r+1, c+2 ④ r+2, c+1 ⑤ r+2, c-1

⑥ r+1, c-2 ⑦ r-1, c-2 ⑧ r-2, c-1

false

because 7 cannot move to 8

```
bool isValid(grid[][], r, c,
             n, expVal){
if(r<0 || c<0 || r>=n || c>=n || grid[r][c] !=
                                    expVal)
    return false;
if( expVal == n^2 - 1)
    return True
```

① — ans1 = isValid(grid, r-2, c+1, n, expVal+1)

② ans2 = isValid(grid, r-1, c+2, n, expVal+1)

⋮ (8 moves)

```
return ans1 || ans2 || ans3 || ans4 || ---
       ans8;
```

T.C = $O(8^{n^2})$

S.C = $O(n^2)$