1BM18CS108
SIDDHARTHA

Siddhartha

papergrid

Date: / /

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AI LAB Test

write-up –

~~def H_n(state, target):~~

```
def dfs(src, target, limit, visited_states):
    if src == target:
        return True

    if limit<=0 :
        return false
    visitede _states. append (src)
    poss_moves = possible_moves(src, visited_states)

    for poss in poss_moves:
        if dfs(poss, target ,limit-1, visited_states): return True
    return false

def possible_moves(state, visited_states):
    b = state.index(-1)
    d = [ ]

    if b-3 in range (9):
        d.append ('u'):
    if b+3 in range (9):
        d.append ('d')
    if b not in [2,5,8]:
        d.append ('r')
    pos_moves=[]
    for move in d:
        pos_moves.append (gen(state, move, b))
    return [move for move in pos_moves if not move
        in visited_states]
```

1BM18CS106

Siddhartha

```
def gen(state, m, b):
    temp = state.copy()

    if m == 'u' : temp[b], temp[b-3] = temp[b-3], temp[b]
    if m == 'd' : temp[b], temp[b+3] = temp[b+3], temp[b]
    if m == 'l' : temp[b] , temp[b-1], temp[b]
    if m == 'r' : temp[b], temp[b+1], = temp[b+1], temp[b]
        return temp.

def iddfs(src, target, depth):
    states = []
    for i in range (1, depth +3):
            if dfs(src, target ,i, states ): return True
    return False

# Test case 1
 src = [*, 2, 4, *, -1, *, *3, 1]
 target = [-1, 1, 2, 3, 4, *, *, *, *]
 depth = 1
 iddfs (src, target, depth)

~~#Testcase~~
```