

DFS search

function DEPTH-FIRST-SEARCH(initialState, goalTest)
 returns **SUCCESS** or **FAILURE** :

 frontier = Stack.new(initialState)
 explored = Set.new()

while not frontier.isEmpty():
 state = frontier.pop()
 explored.add(state)

if goalTest(state):
 return **SUCCESS**(state)

for neighbor **in** state.neighbors():
 if neighbor **not in** frontier \cup explored:
 frontier.push(neighbor)

return **FAILURE**