LAB-3

Q 8-Puzzle game

→ BFS:-
Algo: Let fringe be a list containing the
       initial state.

LOOP
    if fringe is empty return failure
    Node ← remove-first (fringe)
    if Node is a goal
       then return the path from initial state
            to Node.
    else generate all successors of Node,
         and add generated nodes to the
         back of fringe (in levels).

End LOOP

→ DFS:-
Algo: Let fringe be a list containing the
       initial state.

LOOP
    if fringe is empty return failure
    Node ← remove-first (fringe)
    if Node is a goal
       then return the path from initial state
            to Node
    else generate all successors of Node,
         and add generated nodes to the front
         of fringe ~~to the end~~ (complete path)

End LOOP

Q vaccum cleaner

Algo:

1) Initialize the agents starting (x, x)

2) Loop until all cells are clean:
   (a) Perceive the current cell
   (b) If the cell is dirty:
      (i) clean the current cell
   (c) Else:
      (i) check surrounding cells (up, down, left, right) to see if any are dirty.
      (ii) move to the next dirty cells (using a strategy such as BFS, DFS or random movement)
   (d) If no dirty cells are perceived, stop (all cells are clean)

3) End.

Sir
18.10