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LAB-2

→ Implementing Vacuum cleaner agent

Algorithm:

- Initialize the agent's starting (A, B)
- Loop until all cells are clean:
  - Perceive the current cell
  - If the cell is dirty
    - Clean the current cell

  else:
  - check surrounding to check if they are dirty
  - Move to the next dirty cell
  - If no dirty cells are perceived, Stop
- End

O/P ?

⇒ Solution to 8-Puzzle Problem

→ BFS:-

Algorithm :-

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, & add generated nodes to the fringe

end loop.

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→ DFS:-

Algorithm :-

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

→ State space tree:

Initial

1 2 3
4 5 6
0 7 8

Final

1 2 3
4 5 6
7 8 0