## Vacuum — Cleaner agent

Algorithm:

1. Initialize the agent's starting (x, y)

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 one dirty.
        ii. Move to the next dirty cell (using a strategy such as BFS, DFS, or random movement).

    d. If no dirty cells are perceived, stop (all cells are clean)

3. End.

8 Puzzle Problem using DFS

Algorithm:

Let fringe be a list containing the initial state.

Loop

if fringe is empty return failure
node ← remove first (fring)
if node is a goal
Then return the path from
initial state to node
else generate all successor node and
add generated node to the front of
fringe.
end loop.

8 Puzzle Problem using BFS.

Algorithm:

Let fringe be a list containing the initial state.
Loop
if fringe is empty return failure.
node ← remove first (fring)
if node is a goal.
Then return the path from
initial state to node
else generate all successor node and
add generate node to the back of
fringe.
end loop