Vaccum cleaner

import random

# Define environment with 4 quadrants

environment = {

"A": random.choice(["Clean", "Dirty"]),

"B": random.choice(["Clean", "Dirty"]),

"C": random.choice(["Clean", "Dirty"]),

"D": random.choice(["Clean", "Dirty"])

}

# Vacuum starts at position A

current\_position = "A"

# Possible moves between quadrants

moves = {

"A": ["B", "C"],

"B": ["A", "D"],

"C": ["A", "D"],

"D": ["B", "C"]

}

def vacuum\_agent(position):

global environment

if environment[position] == "Dirty":

print(f"Vacuum at {position}: Found Dirty → Suck")

environment[position] = "Clean"

else:

print(f"Vacuum at {position}: Already Clean")

# Move to a new quadrant

new\_position = random.choice(moves[position])

print(f"Moving from {position} → {new\_position}\n")

return new\_position

# Run the agent for a few steps

print("Initial Environment:", environment, "\n")

for \_ in range(10):

current\_position = vacuum\_agent(current\_position)

print("Final Environment:", environment)

