LAB-2

Vacuum Cleaner Algorithm

CODE:

agent\_table = {

('Clean', 'A'): 'MoveRight',

('Clean', 'B'): 'MoveLeft',

('Dirty', 'A'): 'Suck',

('Dirty', 'B'): 'Suck',

}

class VacuumCleaner:

def \_\_init\_\_(self, location='A', status='Clean'):

self.location = location

self.status = status

def act(self, action):

if action == 'MoveRight':

self.location = 'B'

elif action == 'MoveLeft':

self.location = 'A'

elif action == 'Suck':

self.status = 'Clean'

if \_\_name\_\_ == "\_\_main\_\_":

status\_A = input("Enter the status of room A (Clean/Dirty): ").strip().capitalize()

status\_B = input("Enter the status of room B (Clean/Dirty): ").strip().capitalize()

vacuum = VacuumCleaner(location='A', status=status\_A)

while status\_A == 'Dirty' or status\_B == 'Dirty':

action = agent\_table.get((vacuum.status, vacuum.location), 'NoOp')

print(f"Percept: {vacuum.status}, Action: {action}")

if action != 'NoOp':

vacuum.act(action)

if action == 'Suck':

if vacuum.location == 'A':

status\_A = 'Clean'

else:

status\_B = 'Clean'

vacuum.status = status\_A if vacuum.location == 'A' else status\_B

print(f"Location: {vacuum.location}, Status A: {status\_A}, Status B: {status\_B}")

print("Both rooms are clean!")

OUTPUT:

