import numpy as np

import time

# environment = np.array([['DIRTY', 'CLEAN', 'DIRTY'],['CLEAN', 'DIRTY', 'CLEAN'],['DIRTY', 'DIRTY', 'CLEAN']]

# )

class SimpleReflexAgent:

def \_\_init\_\_(self, environment):

self.location = (0,0)

self.environment = environment

def perceive(self): # perceive the environment

return self.environment[self.location]=='DIRTY' # IF dirty return True

def act(self): # Perform the action and move

if self.perceive():

print(f"Location {self.location} is DIRTY.Cleaning..")

self.environment[self.location]="CLEAN"

else:

print(f"Location {self.location} is CLEAN.Moving..")

self.move()

def move(self): # Decide the next move

rows, cols = self.environment.shape

row, col = self.location

if col+1 < cols:

self.location = (row, col+1)

elif row+1< rows:

self.location = (row+1, 0)

else:

print("No more moves..Cleaning completed!")

environment = np.array([['DIRTY', 'CLEAN', 'DIRTY'],['CLEAN', 'DIRTY', 'CLEAN'],['DIRTY', 'DIRTY', 'CLEAN']]

)

print(f"Initial environment: \n {environment}\n\n")

agent = SimpleReflexAgent(environment)

while True:

if np.all(agent.environment=="CLEAN"):

print("All locations are clean.Stopping..")

break

agent.act()

print(f"Environment state: \n{agent.environment}\n\n")