1/10/24

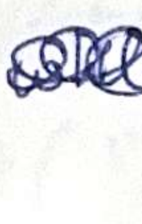
Vaccum Cleaner

→ write an algorithm & program for Vaccum Cleaner.

Step 1 :- Create two rooms and name
1st room = a → is on left
2nd room = b → is on right

Step 2 :- Get the user input as 0 and 1
0 says the room is dirty
1 says the room is clean

Step 3 :- The agent in room 'A', if room 'A' is dirty clean and if not move to room 'B'.



① def_clean (room)

if room == 0;

clean()

room = 1.

else:

break

ii) Move from one room to another, taking the user input & shld move after the room is cleaned.

def_move (room)

while(true):

if room A == 1:

clean (room 'B')

elif

elif room B ==
clean(room A):

if (room A == 1 and room B == 1)
break

print ("Enter 0 if dirty, 1 if clean")

room A = int(input("Enter status for room A :"))
room B = int(input("Enter status for room B :"))

def check_clean(room):
if room == 0:
room = 1
return room

def print_status (room A, room B, current_room):
printf("Curret Status: Room A : {'clean' if room A == 1 else
'Dirty'), Room B : ('Clean' if room B == 1 else 'Dirty'}")

print ("Agent is curretly in Room {Current_room}.")

def move_room(roomA, room B):
current_room = 'A' if roomA == 0 else 'B' if room B == 0
else None

while roomA == 0 or roomB == 0:
if roomA == 0:
print_status (room A, room B, 'A')
room A = check_clean (room A)

print ("Room A Cleaned.")

if room B == 0:

print_status (room A, room B, 'B')

room B = Check_Clean (room B)

print ("Room B cleaned")

if room A == 1 and room B == 0:

current_room = 'B'

print ("Agent moving to room B.")

elif room B == 1 and room A == 0:

current_room = 'A'

print ("Agent moving to room A.")

print_status (room A, room B, current_room)

print ("Both rooms done cleaning.")

move_rooms (room A, room B)

→ Output :-

Enter 0 if dirty, 1 if clean

Enter status for room A: 0

Enter status for room B = 0

Current states : Room A : Dirty

Current states : Room B : Dirty

Agent is curtly in room A

Room A cleaned

Curt Status : Room A : Clean, Room B : Dirty

Agent is curtly in Room B

Room B cleaned.

Agent curtly in room A

Both rooms done cleaning.

~~Agent activity~~

Code :-

```
→ rooms = [ ]

def move_agent (rooms):
    for i in range (len (rooms)):
        print f ("Agent is in room {i+1}")
        if rooms [i] == 0:
            rooms = clean (rooms, i, f "Room {i+1}")
        else:
            print ( f "Room {i+1} already cleaned")
    if all (room == 1 for room in rooms):
        print ("\n All rooms are cleaned")
    else:
        print ("\n Agent is moving back")
    move_agent (rooms)

move_agent (rooms)
```

→ Output :-

```
0 - dirty and 1 - clean
Enter the no of rooms = 4
Ente states for Room 1 : 1
                 Room 2 : 0
                 Room 3 : 1
                 Room 4 : 1
Agent in room 1
Room 1 already cleaned
Agent in room 2
Room 2 Cleaned
Agent in room 3
Room 3 already cleaned
Agent in room 4
Room 4 already cleaned
All room are cleaned.
```

Prac 1 | 10 | 24.