SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
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18CSC305J – ARTIFICIAL INTELLIGENCE LAB

Exp-2: Vacuum Cleaner Problem

Submitted by-
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AI LAB Ex – 2:- Vacuum Cleaner Problem

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- ✓ Ankit - 372
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Problem:

There are 4 rooms and we've to clean them by writing a code

Objective:

In the classical vacuum cleaner problem, we have two rooms and one vacuum cleaner. There is dirt in both the rooms and it is to be cleaned. In this problem, our vacuum cleaner is our agent whose goal is to clean up the whole area consisting of 4 rooms. So, our objective is that we have to choose rooms to clean using the code. In the code, 0 indicates a clean room and 1 indicates a dirty one

Code:

```
import random

def display(room):
   print(room)

room = [
   [1, 1, 1, 1],
   [1, 1, 1, 1],
   [1, 1, 1, 1],
   [1, 1, 1, 1],
]
print("All the rooom are dirty")
display(room)

x =0
y= 0

while x < 4:
   while y < 4:
      room[x][y] = random.choice([0,1])
      y+=1
   x+=1
   y=0

print("Before cleaning the room I detect all of these random dirts")
display(room)
x =0
y= 0
z=0
while x < 4:
   while y < 4:
      if room[x][y] == 1:
```

```
            print("Vaccum in this location now,",x, y)
            room[x][y] = 0
            print("cleaned", x, y)
            z+=1
        y+=1
    x+=1
    y=0
pro= (100-((z/16)*100))
print("Room is clean now, Thanks for using : 3710933")
display(room)
print('performance=',pro,'%')
```