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EXPERIMENT NO :3

TOPIC: VACUUM CLEANER PROBLEM IN ARTIFICIAL INTELLIGENCE

CODE:

```
import random

def display(room):
    print(room)

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

x = 0
y = 0

while x < 3:
    while y < 3:
        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 < 3:
    while y < 3:
        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")
display(room)
print('performance=',pro,'%')
```

OUTPUT:

```
➞ All the rooom are dirty
[[1, 1, 1], [1, 1, 1], [1, 1, 1]]
Before cleaning the room I detect all of these random dirts
[[0, 1, 0], [0, 0, 1], [0, 0, 0]]
Vaccum in this location now, 0 1
cleaned 0 1
Vaccum in this location now, 1 2
cleaned 1 2
Room is clean now
[[0, 0, 0], [0, 0, 0], [0, 0, 0]]
performance= 87.5 %
```