

1. Write a program to implement a vacuum cleaner agent with basic functions.

```
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 room 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
            z += 1
        y += 1
    x += 1
    y = 0
pro = (100 - ((z / 16) * 100))
print("Room is clean now, Thanks for using")
display(room)
print('performance=' , pro, '%')
```