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```
# Given M x N grid(floor) create an agent that moves around the grid until the entire grid is clean

floor = [[1, 0, 0, 0], # '1' represents dirty and '0' represents clean
          [0, 1, 0, 1],
          [1, 0, 1, 1]]

def clean(floor):
    m = len(floor[0]) # no of cols
    n = len(floor)    # no of rows
    no_of_tiles = m * n

    tiles_checked = 0

    row = 0
    col = 0
    while tiles_checked < no_of_tiles:
        # Current position
        print_floor(floor, row, col)

        # Suck if dirty
        if floor[row][col] == 1:
            floor[row][col] = 0
```

Console

Windows Taskbar: Type here to search, 10:36 PM 13-Jul-21

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```
            floor[row][col] = 0
            print('Sucked the dirt')
        else:
            print('Already Clean')

        # Next tile
        if row % 2 == 0: # Even rows the bot moves right to the next tile
            if col < m-1:
                col += 1
            else:
                row += 1 # Move to next row if we reached the last col

        elif row % 2 == 1: # Odd rows the bot moves left to the next tile
            if 0 < col:
                col -= 1
            else:
                row += 1 # Move to next row if we reached the last col

        tiles_checked += 1
        print('-----')

    print('Cleaned!!!')
```

Console

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Code

```
print('Cleaned!!!')
```

```
def print_floor(floor, row, col):  
    temp = floor[row][col]  
    floor[row][col] = 'VC'  
    for x in floor:  
        print(x)  
  
    floor[row][col] = temp  
  
# Call the function  
clean(floor)
```

```
['VC', 0, 0, 0]  
[0, 1, 0, 1]  
[1, 0, 1, 1]  
Sucked the dirt  
-----  
ra 'vr' a a1
```

Console

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Code

```
['VC', 0, 0, 0]  
[0, 1, 0, 1]  
[1, 0, 1, 1]  
Sucked the dirt  
-----  
[0, 'VC', 0, 0]  
[0, 1, 0, 1]  
[1, 0, 1, 1]  
Already Clean  
  
[0, 0, 'VC', 0]  
[0, 1, 0, 1]  
[1, 0, 1, 1]  
Already Clean  
  
[0, 0, 0, 'VC']  
[0, 1, 0, 1]  
[1, 0, 1, 1]  
Already Clean  
  
[0, 0, 0, 0]  
[0, 1, 0, 'VC']  
[1, 0, 1, 1]  
Sucked the dirt  
-----  
[0, 0, 0, 0]  
[0, 1, 'VC', 0]  
[1, 0, 1, 1]  
Already Clean  
-----  
[0, 0, 0, 0]
```

Console

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```
[0, 0, 0, 0]
[0, 'VC', 0, 0]
[1, 0, 1, 1]
Sucked the dirt

[0, 0, 0, 0]
['VC', 0, 0, 0]
[1, 0, 1, 1]
Already Clean

[0, 0, 0, 0]
[0, 0, 0, 0]
['VC', 0, 1, 1]
Sucked the dirt

[0, 0, 0, 0]
[0, 0, 0, 0]
[0, 'VC', 1, 1]
Already Clean

[0, 0, 0, 0]
[0, 0, 0, 0]
[0, 0, 'VC', 1]
Sucked the dirt

[0, 0, 0, 0]
[0, 0, 0, 0]
[0, 0, 0, 'VC']
Sucked the dirt
.....
```

Console

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```
Sucked the dirt

[0, 0, 0, 0]
['VC', 0, 0, 0]
[1, 0, 1, 1]
Already Clean

[0, 0, 0, 0]
[0, 0, 0, 0]
['VC', 0, 1, 1]
Sucked the dirt

[0, 0, 0, 0]
[0, 0, 0, 0]
[0, 'VC', 1, 1]
Already Clean

[0, 0, 0, 0]
[0, 0, 0, 0]
[0, 0, 'VC', 1]
Sucked the dirt

[0, 0, 0, 0]
[0, 0, 0, 0]
[0, 0, 0, 'VC']
Sucked the dirt

Cleaned!!!
```

+ Code + Markdown

Console

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