

```
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
"""
Created on Wed Mar  9 11:24:56 2022

@author: juanmeriles
"""
```

```
import sys as sys
import random as random
import math as math
import time as time
```

```
0 0
0 4
0 8
0 12
4 0
5 5
3 9
4 12
8 0
7 4
9 7
8 12
12 0
13 3
11 8
12 12
16 0
16 4
16 8
16 12
```

```
1 2 6 5
2 3 7 6
3 4 8 7
5 6 10 9
6 7 11 10
7 8 12 11
9 10 14 13
10 11 15 14
11 12 16 15
13 14 18 17
14 15 19 18
15 16 20 19
```

```
1 1 1 1 1 0 0 1 1 0 0 1 1 0 0 1 1 1 1 1
```

```

def MeanRemap
    for i in range len
        if i == 1
        else
            for i in range len
                for j in range len
                    if i == j
                        +1

                        8
                        0
            for i in range len
                for j in range len
                    if i == j
                        not in
                        +1

                        0
                        0
            for i in range len

                int
                int
                len
                len
            #nodesMean[i][0] = newx
            #nodesMean[i][1] = newy

return
def PoisEqs
    1 2 7 3
    1 2 1 5
        7 2 0 3
        1 2 0 5
        1 4 0 4 6 2

    1 2 7 3
    1 2 1 5
        7 2 1 3
        1 2 1 5
        1 4 0 4 6 2

```

```

        2      2
        2      2
        -2
        -2

    return

def PoissonRemap

    'float'

    for i in range len

        if i == 1
        else
            for j in range len
                for k in range len
                    if k == 0
                        if i == 0
                            0      2
                            1      1
                            7      3
                        if i == 1
                            5      0
                            6      3
                        if i == 2
                            3      1
                            4      0
                        if i == 3
                            2      1
                        0      1
                    len
                #print(surnodes)
                int 0
                int 1

            0
            1

```

```

    return

def plotElements
    for i in range len

        for j in range len

            0

            1 0
            1 1

            0
            0

            'b'

#print(nodes)

    0 0
    0 4
    0 8
    0 12
    4 0
    4 4
    4 8
    4 12
    8 0
    8 4
    8 8
    8 12
    12 0
    12 4
    12 8
    12 12
    16 0
    16 4
    16 8
    16 12

    for i in range 25

```

2
2

'r'

'g'

2

'Neighbor Average'
'Poisson Smoothing'