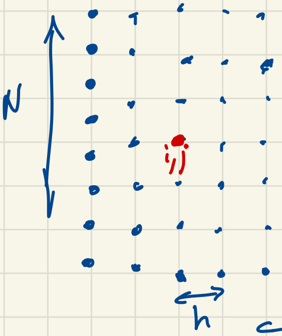
$f''(x)$

$\downarrow$

$$\frac{\partial^2 V}{\partial x^2} + \frac{\partial^2 V}{\partial y^2} \rightarrow$$

$$(1)\quad V(x,y) = \frac{1}{4}\left[V(x+h,y) + V(x-h,y) + V(x,y+h) + V(x,y-h) + \rho(x,y)\,h^2\right]$$



$$V(2,2) = \frac{1}{4}\left[\left(V(3,2) + V(1,2) + V(2,3) + V(2,1) + \rho(2,2)/h^2\right.\right.$$

$\vdots$

$$V(i,j) = \frac{1}{4}\left[\left(V(i+1,j) + \dots\right.\right.$$

N

$$V_0 = \begin{bmatrix} 0 & 0 & 0 & \dots \\ 0 & & & \\ \vdots & & & \\ 0 & & & \end{bmatrix} \xrightarrow{(1)} V_1 = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & & & & & 0 \\ 0 & & (2,2) & & & 0 \\ 0 & & & & & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix} \longrightarrow \dots \xrightarrow{k} \dots$$

N

- Definir umbral epsilon = 1e-8
- Definir contador iteraciones k = 0
- Definir variable error = 10

- Inicializar V_temp = zeros(N,N)

```
while k < 1e4 and error > epsilon
    error = 0
        for i in range(1, N-1)
            for j - - - - ( . .
                V[i,j] = . . . .
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    error = 0
    for i in range(1, N-1)
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            V[i,j] = . . . . . e [illegible] Vtemp
            error += V[i,j] - Vtemp[i,j]
    error = error / N^2
```