

R 860

G 0

D 0

R 100

G 6

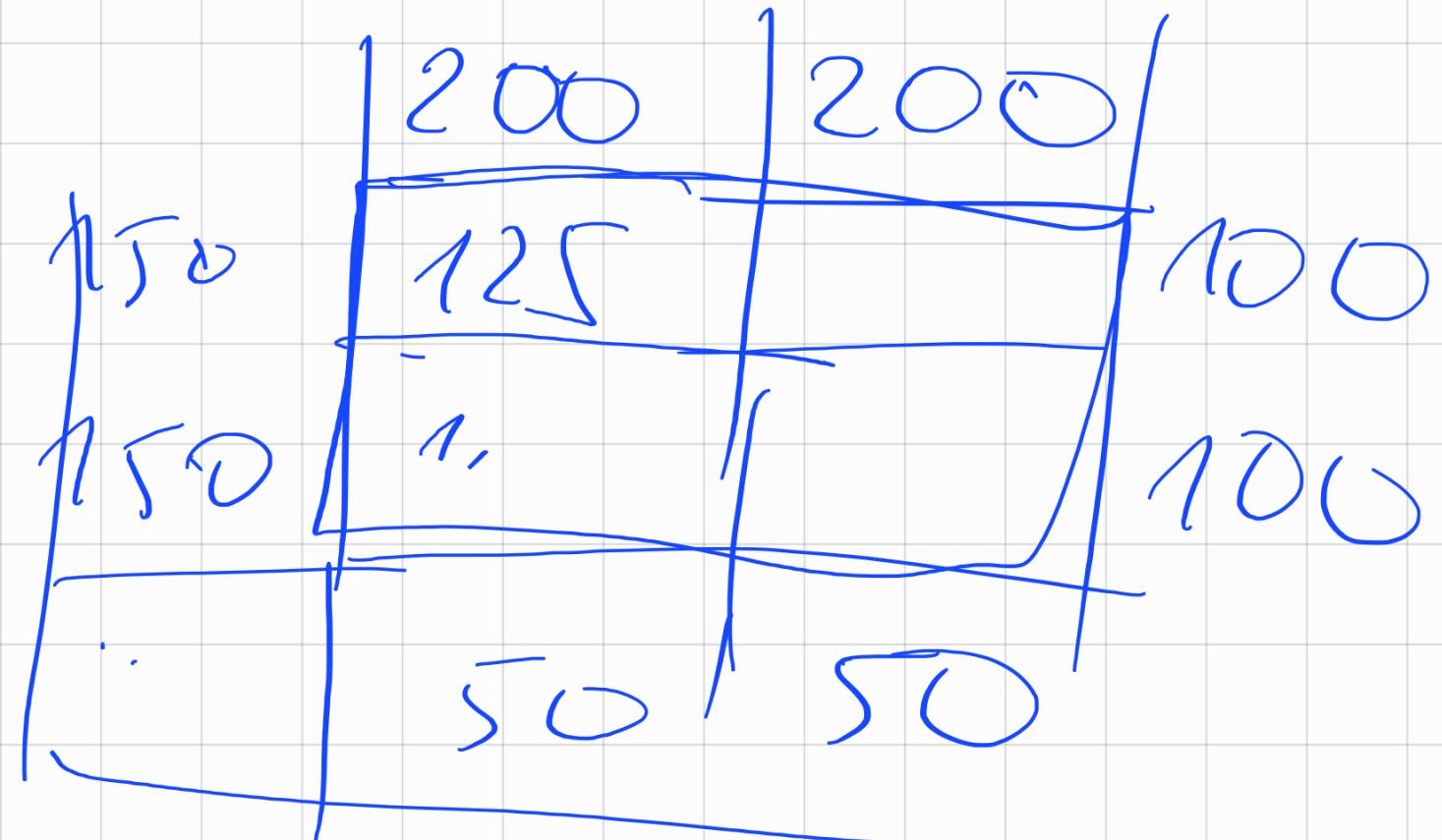
D 0

200 150 100

200 () 100
166 (157,)

200 100 100

175 150 125



$$f(a, b)$$

$$\frac{\partial f(a, b)}{\partial a}$$

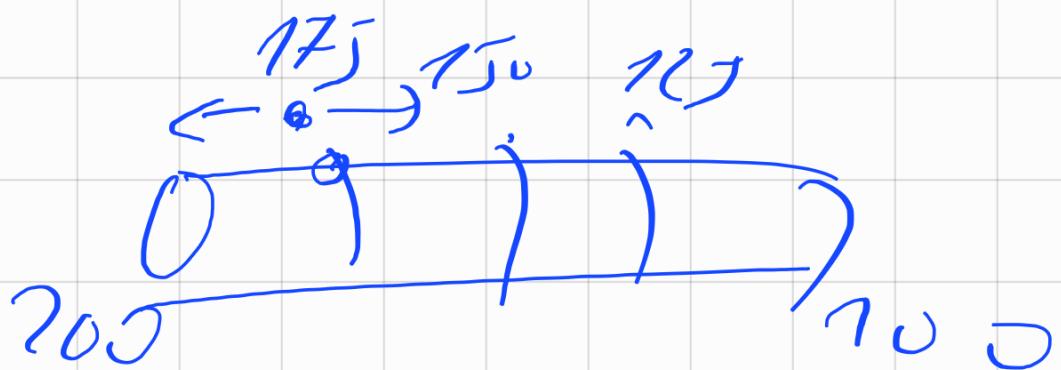
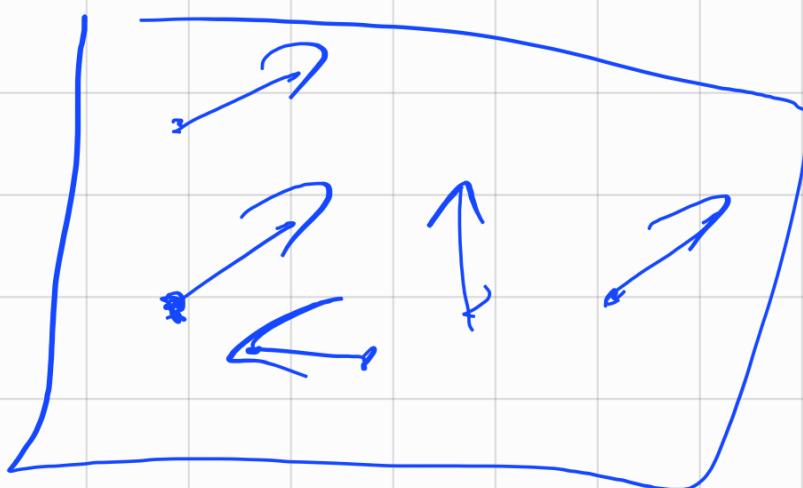
$$\frac{\partial f(a, b)}{\partial b}$$

$$\nabla f(G_{1,1}) - e_1 \cdot \frac{\partial f}{\partial \gamma} + e_2 \cdot \frac{\partial f}{\partial \delta}$$

y

$$Q_1 = (0, 1)$$

$$e_1 = (1, 0)$$



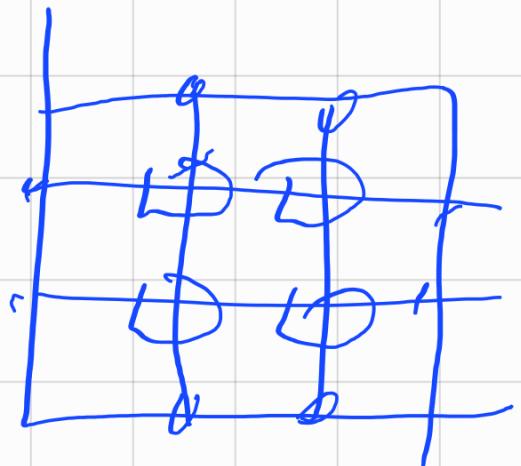
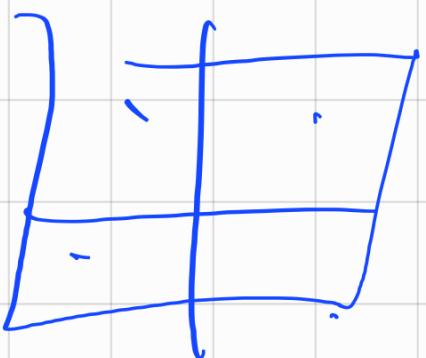
$$\nabla^2 f = 0$$

$$\nabla^2 = \frac{\partial^2 f}{\partial x^2} + \frac{\partial^2 f}{\partial y^2}$$

$$\nabla^2 = \Delta$$

$$T(x_i, y_j)$$

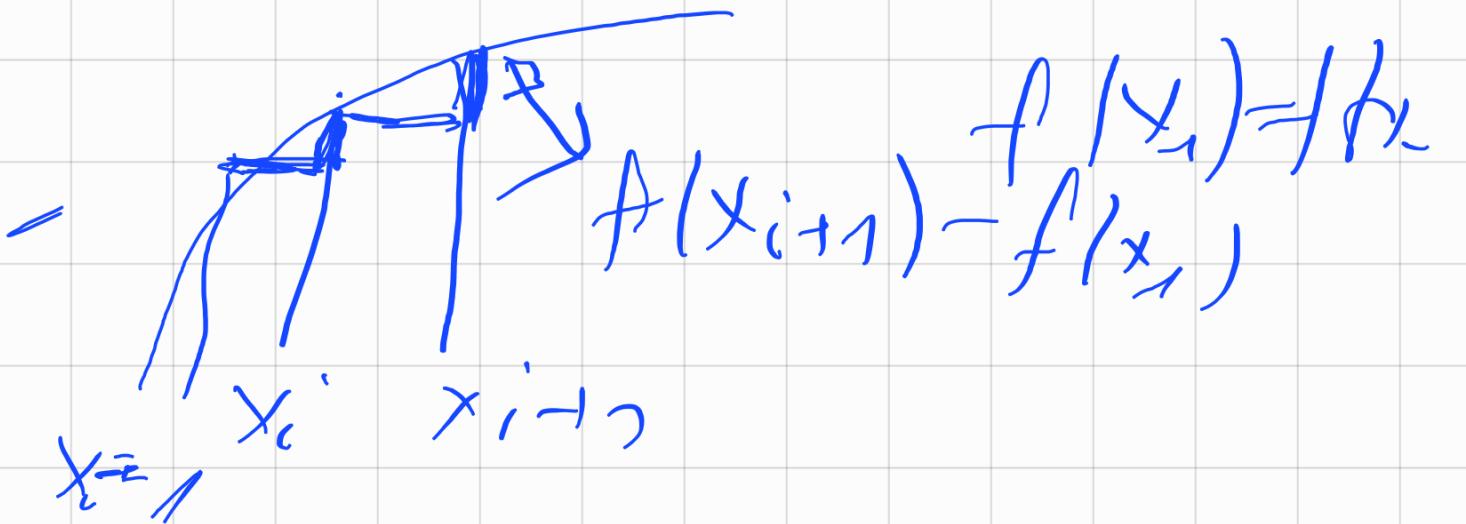
$$\Delta T = 0$$



$$\left\{ \begin{array}{l} \frac{\partial T(x_i, y_i)}{\partial x^2} + \frac{\partial T(x_i, y_j)}{\partial y^2} = 0 \end{array} \right.$$

$$f'(x_0) = \lim_{\Delta x \rightarrow 0} \frac{f(x_1) - f(x_0)}{\Delta x}$$

$$f'(x_i) = \lim_{\Delta x \rightarrow 0} \frac{f(x_{i+1}) - f(x_i)}{\Delta x}$$



$$f'(x_i) = \lim_{\Delta x \rightarrow 0} \frac{f(x_i) - f(x_{i-1})}{\Delta x}$$

$$f(a, b) = a^2b^2 + ab^2 + a^2b + ab + a + b + 1$$

$$\frac{\partial f(a, b)}{\partial a} = 2ab^2 + b^2 + 2ab + b + 1$$

$$\frac{\partial T(x_i, y_i)}{\partial x} =$$

$$\frac{\partial}{\partial x} \left[T(x_{i+1}, y_i) - T(x_i, y_i) \right]$$

$$\frac{\partial T(x_{i+1}, y_i)}{\partial x} + \frac{\partial T(x_i, y_i)}{\partial x} =$$

$$T(x_{i+1}, y_i) - T(x_i, y_i)$$

Δx



$$T(x_i, y_i) - T(x_{i-1}, y_i)$$

Δx

Δx

$$T(x_{i-1}, y_i) - 2T(x_i, y_i) + T(x_{i-1}, y_i)$$

Δx^2

$$\frac{\partial^2 T(x_i, y_i)}{\partial y^2} =$$

$$T(x_i, y_{j+1}) - 2T(x_i, y_j) +$$

$$T(x_i, y_{j-1})$$

$$\Delta y^2$$

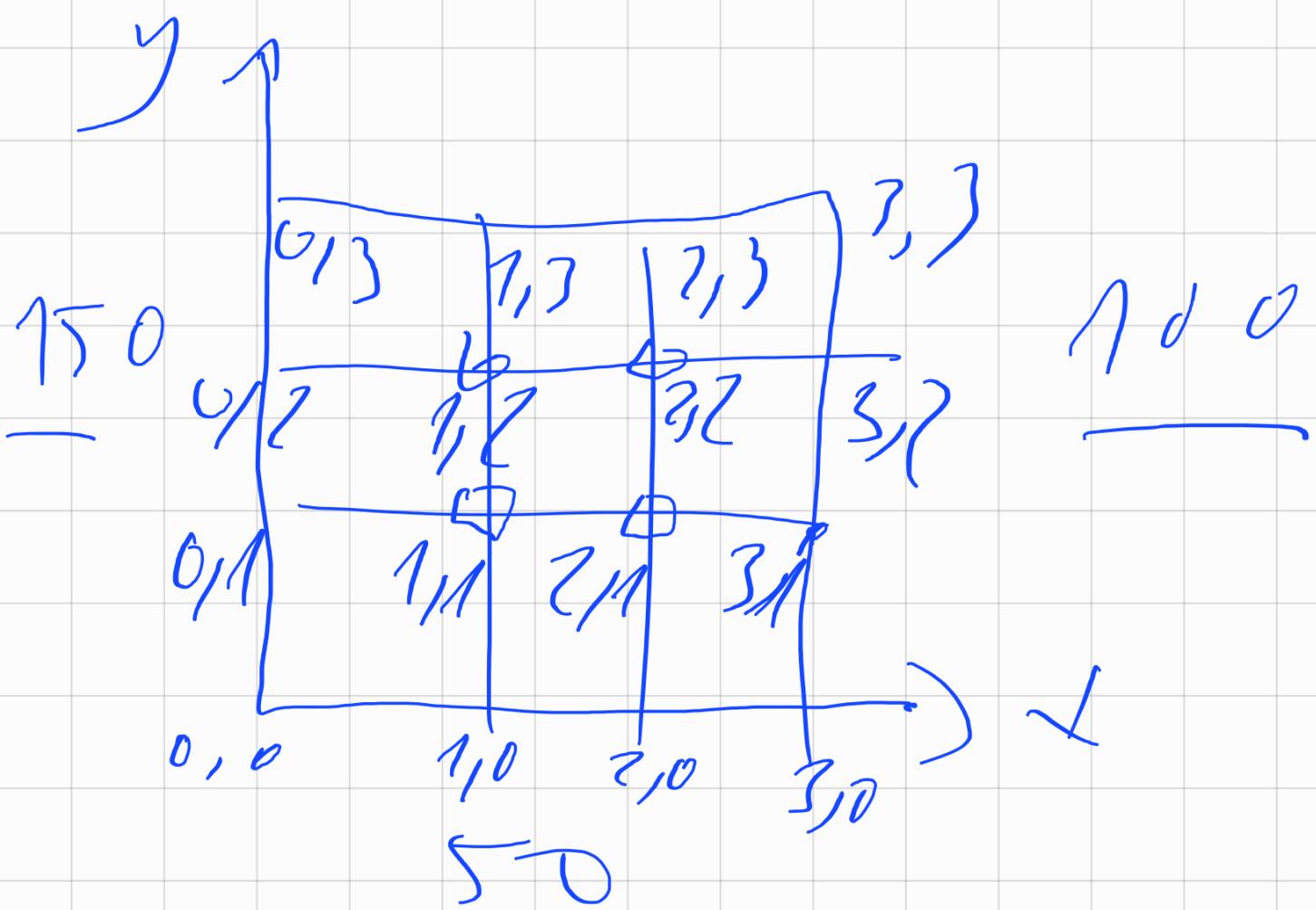
$$\frac{T(i+\Delta_1, j) - 2T(i, j) + T(i-\Delta_1, j)}{\Delta x^2} +$$

$$\underline{T(i, j+1) - 2T(i, j) + T(i, j-1)} = 0$$

$$\Delta X = \delta y$$

$$T(\bar{i}+1, j) - T(i, j) + T(\bar{i}-1, j) + \\ T(i, i+\pi) + T(i, j-\pi) = 0$$

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$$i=1 \quad j=1$$

$$T(2,1) - 4T(1,1) + T(0,1),$$

$$T(1,2) - T(1,0) = 0$$

$$T(2,1) - 4T(1,1) + 150 \\ + T(1,2) + 50 = 0$$

$$T(2,1) - 4T(1,1) + T(1,2) \\ \geq -200$$

$T(1,1)$	$T(2,1)$	$T(1,2)$	$T(2,2)$	b
-4	1	1	0	-200

$$i = 2 \quad j = 1$$

$$T(3,1) - 4T(2,1) + T(1,1) +$$

$$T(2,2) + T(2,0) = 0$$

$$100 - 4T(2,1) + T(1,1) + T(2,2) + 50 = 0$$

$$-4T(2,1) + T(1,1) + T(2,2) -$$

$$= 150$$

$$\begin{array}{c} T(1,1) \quad T(2,1) \quad | T(1,2) \quad | T(2,2) \\ \hline 1 \quad -4 \quad 0 \quad 1 \quad -150 \end{array}$$

$$i=1 \quad j=2$$

$$T(2,2) - 4T(1,2) + T(0,2) =$$

$$T(1,3) - T(1,1) = 0$$

$$T(2,2) - 4T(1,2) + 150 +$$

$$200 + T(1,1) = 0$$

$$T(2,2) - 2T(1,2) + T(1,1) \\ = -350$$

$$\begin{array}{c|ccccc|c} T(1,1) & | & T(2,1) & | & T(1,2) & | & T(2,2) & | & 6 \\ \hline 1 & | & 0 & | & -4 & | & 1 & | & -350 \end{array}$$

$$i=2 \quad j=2$$

$$T(3,2) - 4T(2,2) + T(1,2) +$$

$$T(2,3) + T(2,1) = 0$$

$$100 - 4T(2,2) + T(1,2) +$$

$$200 + T(2,1) = 0$$

$$- 4T(2,2) + T(1,2) +$$

$$T(2,1) = -300$$

$$\begin{array}{c} (1,1) \quad | \quad (2,1) \quad | \quad (1,2) \quad | \quad (2,2) \\ \hline 0 \quad 1 \quad 1 \quad -1 \end{array} - 300$$

$$Ax = b$$

$$x + 2y = 3$$

$$2x + 2y = 4$$

$$\begin{bmatrix} 1 & 2 \\ 2 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 3 \\ 4 \end{bmatrix}$$

$$\begin{bmatrix} -1 & 0 \\ 2 & ? \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -1 \\ 4 \end{bmatrix}$$

$$A \cdot A^{-1} = \underline{I}$$

$$Ax = b \quad | \cdot A^{-1}$$

$$A \cdot A^{-1} x = A^{-1} b$$

$$\underline{I} x = A^{-1} b$$

$$x = A^{-1} b$$