

$$\frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} \Rightarrow A_x + A_y$$

$$u^{n+1} - u^n = \Delta t \frac{A_x}{2} (u^{n+1} + u^n) + \frac{A_y}{2} (u^{n+1} + u^n)$$

$$u^{n+1/2} - u^n = \frac{\Delta t}{2} (A_x u^{n+1/2} + A_y u^n)$$

↑
trivial

$$u^{n+1} - u^{n+1/2} = \frac{\Delta t}{2} (A_x u^{n+1/2} + A_y u^{n+1})$$

$$u^{n+1} - \frac{\Delta t}{2} A_y u^{n+1} = u^{n+1/2} + \frac{\Delta t}{2} A_x u^{n+1/2}$$

$$\frac{u^{1/3} - u^0}{\Delta t} = A_x u^{1/3} + A_y u^{1/3} + A_z u^0$$

$$\frac{u^{2/3} - u^{1/3}}{\Delta t} = A_x u^{1/3} + A_y u^{2/3} + A_z u^{1/3}$$

$$\frac{u^2 - u^1}{\Delta t} = \frac{u^2 u^1 u^0 u^{-1}}{\Delta t}$$

$$\frac{u^{1/3} - u^0}{\Delta t/3} = A_x u^{1/3} + (A_y + A_z) u^0$$

$$\frac{u^{2/3} - u^0}{\Delta t/3} = A_x u^{1/3} + (A_y + A_z) u^{2/3}$$

$$(A_x + A_y) \rightarrow A_x u^{1/2} + A_y u^0$$

$$A_x u^{1/2} + A_y u^1$$

$$A_x u^{1/2} + (A_y + A_z) u^0$$

$$(A_y + A_z) u^0 \rightarrow A_y u^0 + A_z u^{1/2}$$

$$+ A_y u^{1/2} + A_z u^{5/2}$$

$$f(x) \Rightarrow f_j \quad \hat{f}(k) = \int e^{ikx} f(x) dx$$

$$\hat{f}(k) = \sum_j e^{i k (\Delta x j)} f_j$$

$$\hat{f}(\frac{k}{L}) = \sum_j e^{i \frac{k}{L} j \Delta x} f_j$$

$$f_J \quad H \rightarrow \hat{J} N \quad e^{i(eJ/\hbar) \Delta K \Delta x}$$

$$\begin{pmatrix} \text{diagonal lines} \end{pmatrix} (x) = (b)$$

$$\begin{matrix} \text{|||||} \\ \text{---} \end{matrix} \rightarrow (A, \lambda) \rightarrow x$$

$$\begin{pmatrix} \text{circles with crosses} \end{pmatrix} (x) = \begin{pmatrix} \text{circles with crosses} \end{pmatrix}$$

$$\begin{pmatrix} \text{dots} \end{pmatrix} (x) = \begin{pmatrix} \text{dots} \end{pmatrix}$$

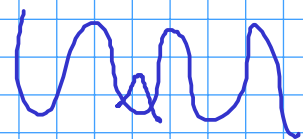
$$x_5 = b_5 / a_{55}$$

$$a_{44}x_4 + a_{45}x_5 = b_4$$

$$x_4 = \frac{b_4 - a_{45}x_5}{a_{44}}$$

$$\partial_t u = (\partial_x f + \sum \partial_{x^2}^2) u$$

$$f = \cos Kx + \cos \omega t$$



$$\partial_t^2 u - \partial_x^2 u = fu$$

// Note
per
risolvere
Eq onde
governate

$\begin{pmatrix} u \\ w \end{pmatrix}$

$$w = \partial_t u + \partial_x u$$

$$\begin{cases} \partial_t u + \partial_x u = w \\ \partial_t w - \partial_x w = fu \end{cases}$$