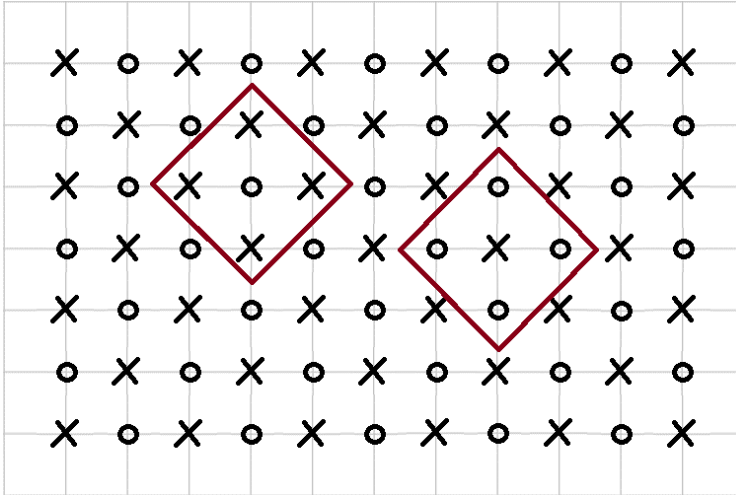


ДС-алгоритм.



$$\frac{u_{i,j}^{n+1} - u_{i,j}^n}{\tau} = a \left(\frac{u_{i+1,j}^n - 2u_{i,j}^n + u_{i-1,j}^n}{h_x^2} + \frac{u_{i,j+1}^n - 2u_{i,j}^n + u_{i,j-1}^n}{h_y^2} \right) + f_{i,j}^n, \quad i + j + n - \text{парне} (\times)$$

$$\frac{u_{i,j}^{n+1} - u_{i,j}^n}{\tau} = a \left(\frac{u_{i+1,j}^{n+1} - 2u_{i,j}^{n+1} + u_{i-1,j}^{n+1}}{h_x^2} + \frac{u_{i,j+1}^{n+1} - 2u_{i,j}^{n+1} + u_{i,j-1}^{n+1}}{h_y^2} \right) + f_{i,j}^{n+1}, \quad i + j + n - \text{непарне} (\odot)$$

=>

$$u_{i,j}^{n+1} = u_{i,j}^n + \tau a \left(\frac{u_{i+1,j}^n - 2u_{i,j}^n + u_{i-1,j}^n}{h_x^2} + \frac{u_{i,j+1}^n - 2u_{i,j}^n + u_{i,j-1}^n}{h_y^2} \right) + \tau f_{i,j}^n \quad (\times)$$

$$u_{i,j}^{n+1} = \frac{u_{i,j}^n + \tau a \left(\frac{u_{i+1,j}^{n+1} + u_{i-1,j}^{n+1}}{h_x^2} + \frac{u_{i,j+1}^{n+1} + u_{i,j-1}^{n+1}}{h_y^2} \right) + \tau f_{i,j}^{n+1}}{1 + 2\tau \left(\frac{1}{h_x^2} + \frac{1}{h_y^2} \right)} \quad (\odot)$$