$$\begin{cases} \dfrac{\partial u}{\partial t} - \varepsilon \dfrac{\partial^2 u}{\partial x^2} + a \dfrac{\partial u}{\partial x} = 0 \\ u\big|_{t=0} = 1 - H(x) \end{cases}$$

$$\frac{\partial u}{\partial t} = \frac{u_i^{n+1} - u_i^n}{\tau}$$

$$\frac{\partial u}{\partial x} = \frac{u_{i+1}^n - u_{i-1}^n}{2h}$$

$$\frac{\partial^2 u}{\partial x^2} = \frac{u_{i+1}^n - 2u_i^n + u_{i-1}^n}{h^2}$$

$$\frac{u_i^{n+1} - u_i^n}{\tau} - \varepsilon \frac{u_{i+1}^n - 2u_i^n + u_{i-1}^n}{h^2} + a \frac{u_{i+1}^n - u_{i-1}^n}{2h} = 0$$

$$u_i^{n+1} = u_i^n + \tau \left[\varepsilon \frac{u_{i+1}^n - 2u_i^n + u_{i-1}^n}{h^2} - a \frac{u_{i+1}^n - u_{i-1}^n}{2h} \right]$$