

1 Lax

$$U_i^{n+1} = \frac{1}{2} (U_{i+1}^n + U_{i-1}^n) - \frac{\Delta t}{2\Delta x} (F_{i+1}^n - F_{i-1}^n) \quad (1)$$

2 MacCormack

$$U_i^* = U_i^n + \frac{\Delta t}{\Delta x} (F_{i+1}^n - F_i^n) \quad (2)$$

$$U_i^{n+1} = \frac{1}{2} [U_i^n + U_i^* (F_i^* - F_{i-1}^*)] \quad (3)$$