$$y_i^{n+1} - y_i^n = -u\frac{\Delta t}{\Delta x}\left(y_{i+1}^n - y_i^n\right) \qquad \text{if } u < 0$$

$$y_i^{n+1} - y_i^n = -u\frac{\Delta t}{\Delta x}\left(y_i^n - y_{i-1}^n\right) \qquad \text{if } u > 0$$