**Remark 3.3:** on piecewise continuous data, i.e. \( a_1 c_1 f \in PC(\overline{\Omega}) \) and the interfaces are covered by the primary grid \( \forall a_1 c_1 f \in C(\overline{\Omega}) \) \( \forall x \in R_k \) \( \forall \theta \in \Theta \):

1. \( \overline{a}(x) := (a(x^+))^{-1} \frac{s(x^+)}{s(x^-)} + a(x^-)) \frac{s(x^-)}{s(x)} \)

2. \( \sum_{r \in B(x)} S_{cud} dy \approx ... \)

3. \( \sum_{r \in B(x)} S_{f(c)} dy \approx ... \)

Different approximation techniques and assembling technologies are possible, e.g. the elementwise procedure known from the FEM.

**E 3.1** Show that in (6)_L the difference operator \( L_h \) is monotone! If \( c(x) \geq l = \text{const} > 0 \) \( \forall x \in \Omega \), then \( L_h \) is even strongly monotone!

\( L_h v(x) := A(x) v(x) - \sum_{\exists \epsilon \in S'(x)} B(x, \epsilon) v(\epsilon), x \in \Omega \)

is called (strongly) monotone if

\[
A(x) > 0, B(x, \epsilon) > 0 \forall \epsilon \in S'(x) \forall x \in \Omega, \quad D(x) := L_h^* 1 = A(x) - \sum_{\exists \epsilon \in S'(x)} B(x, \epsilon) > 0 \forall x \in \Omega
\]