Recap: a Covariances between related individuals

- Reason: MME contain the matrix G
  where $G = A \cdot \sigma_u^2$ = var(u)
  A: numerator relationship matrix

- More precisely: G^{-1} is required for the coefficient matrix of MME

- Since $G = A \cdot \sigma_u^2 \Leftrightarrow G^{-1} = A^{-1} \cdot \sigma_u^{-2}$
  $\Rightarrow A^{-1}$ required. (In practice A^{-1} has dimensions 10^7 rows x 10^7 columns)

- Idea: - Construct A^{-1} without computing A
  - Construction is based on LDL-decomposition of A, where $A = L \cdot D \cdot L^T$
    where L is a lower-triangular matrix and D is a diagonal matrix
  - L and D are "easy" to invert