- So far we have seen: $var(u) = G = A \cdot \bar{\sigma}_u^2$
- But for MME, we need $G^{-1} = A^{-1} \cdot \bar{\sigma}_u^{-2}$
- In summary: BLUP animal models are only possible in real data sets because solutions can be obtained from MME and there is an efficient algorithm to directly compute $A^{-1}$ without computing $A$.
- Direct construction of $A^{-1}$ is based on the so-called LDL-decomposition of A

$A = L \cdot D \cdot L^T$ where L is lower-triangular and D is diagonal matrix

$$L = \begin{bmatrix} & & & \\ & & & \\ & & & \\ & & & \emptyset \end{bmatrix}; \quad D = \begin{bmatrix} & & & \\ & & & \\ & & & \\ & & & \emptyset \end{bmatrix}$$