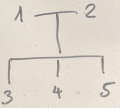
- Kinship coefficient : $1/16 + 1/16 = 1/8$

- Additive genetic relationship which correspond to elements of the numerator relationship matrix A, are two times the kinship coefficient.

$(A)_{ij} = 2 \cdot 1/8 = 1/4$ if animals i and j are halfsibs.

Last week :



$$u = \begin{bmatrix} u_1 \\ u_2 \\ u_3 \\ u_4 \\ u_5 \end{bmatrix}$$

$G = \text{var}(u) = A \cdot \sigma_u^2$ → genetic additive variance

A : numerator relationship matrix

$$A = \begin{array}{c|ccccc} & 1 & 2 & 3 & 4 & 5 \\ 1 & & 0 & & & \\ 2 & & & & & \\ 3 & & & & & \\ 4 & & & & & \\ 5 & & & & & \end{array}$$

$$(A)_{12} = \frac{\text{cov}(u_1, u_2)}{\sigma_u^2} = 0$$