

# Livestock Breeding and Genomics - Exercise 7

*Peter von Rohr*

*2019-11-08*

## Problem 1: Decompositions

Given is the following pedigree.

Animal	Sire	Dam
1	NA	NA
2	NA	NA
3	1	2
4	1	NA
5	3	4
6	5	4

### Your Tasks

- Do the simple decomposition of the above pedigree
- Do the recursive decomposition of the above pedigree until only  $m_i$  terms appear on the right-hand side of the decomposition.

## Problem 2: Henderson's Rules

Compute  $A^{-1}$  for the following pedigree using Henderson's rules. Verify your result with the function `pedigreemm::getAInv()`.

Animal	Sire	Dam
3	1	NA
4	NA	2
5	3	4
6	3	4