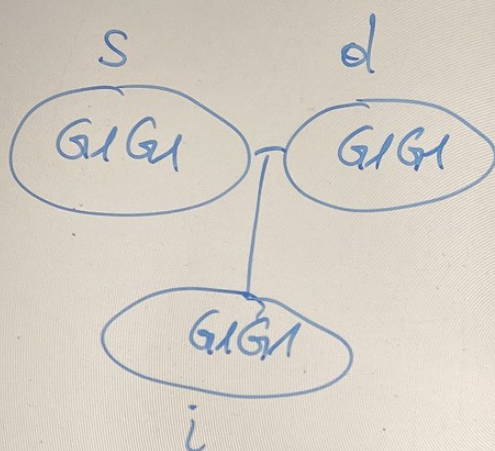◻ Verify

- Single locus G

- Different cases according to parent genotypes

☑ Case 1: Parents s and d are homozygous

$$s \qquad d \qquad\qquad \text{Dito for } G2$$

$u_s = 2q\alpha$
$u_d = 2q\alpha$
$u_i = 2q\alpha$

$u_i = \frac{1}{2} u_s + \frac{1}{2} u_d + m_i$

$m_i = 2q\alpha - \left(\frac{1}{2} 2q\alpha + \frac{1}{2} 2q\alpha\right)$
$\quad = 2q\alpha - (q\alpha + q\alpha) = 0$

$\frac{1}{N} \sum_{i=1}^{N} m_i = \frac{1}{N} \left(m_1 + m_2 + \dots + m_N \right) = \frac{1}{N}(0 + 0 + \dots + 0) = 0$