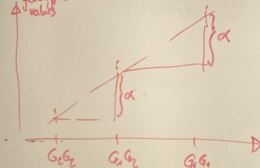


Data Set for MEM:

Animal	SNP1	SNP2	...	SNP _k	y
1	G ₁ G ₂	H ₁ H ₂		I ₁ I ₁	y ₁
2	G ₂ G ₂	H ₁ H ₁		I ₂ I ₂	
...	
N	G ₁ G ₁	H ₁ H ₂		I ₁ I ₁	

Quantitative Genetics

genotypic values



	V_{ij}
G ₁ G ₁	a
G ₁ G ₂	d
G ₂ G ₂	-a

In MEM, we assume $d=0$
 $\Rightarrow \alpha=a$

MEM for animal 1:

$$\left. \begin{aligned} y_1 &= \mu + 0 \cdot q_1 + 0 \cdot q_2 + \dots + 1 \cdot q_k + E_1 \\ y_2 &= \mu + (-1) \cdot q_1 + 1 \cdot q_2 + \dots + (-1) \cdot q_k + E_2 \end{aligned} \right\} \begin{array}{l} q_j \text{ is the} \\ \text{genotypic value} \\ \text{of SNP } j \end{array}$$