2. Breeding Value Based Model

- Genomic breeding values g as random Effects in a LME.

$$\Rightarrow \quad y = X\beta + Zg + e$$

Length of g corresponds to the number of animals with genotypes.

$$\text{with} \quad var(g) = G \cdot \sigma_g^2$$

G: genomic relationship matrix based on identity by state information from SNP-genotypes.

$\hat{\beta}$ and $\hat{g}$ are computed from MME.

Problem 2 of Ex 10:

Data:

	SNP A	SNP B	Ob
1	0 (G_1G_1)	0	156
2	1	0	
3	0	1	
4	1	0	
5	-1 (G_2G_2)	0	

BVM: $y = X\beta + Zg + e = y = 1\mu + Zg + e$

μ: Intercept