Livestock Breeding and Genomics - Exercise 12

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Problem 1: Accuracy of Predicted Breeding Values

Use the dataset given below to predict breeding values for the response variable `Weight` using a BLUP animal model. The model contains `Herd` as fixed effect and `BreastCircumference` as regression covariate. Compute reliabilities ($B\%$) for all predicted breeding values.

Hints

- The phenotypic variance σ_p^2 can be computed from the variance of the weight values given in the dataset.
- Heritability (h^2) is assumed to be 0.25 for the trait `Weight`.

Data

The dataset is available from

```
## https://charlotte-ngs.github.io/lbgfs2023/data/beef_data_blup.csv
```