

Homework 3

2024-09-27

Exercise 1

Read the data in the chunk below.

The data consist of an experiment studying the effect of waterlogged conditions (i.e., flood treatment) on crown biomass of three different clover species. The crown is a critical storage organ in many Legume species.

Propose a statistical model (using mathematical notation) to describe the relationship between crown biomass, legume species, and fit that model to the data.

```
library(tidyverse)

url <- "https://raw.githubusercontent.com/jlacasa/stat705_fall2024/main/classes/data/lotus_part4.csv"
dd <- read.csv(url)

dd %>%
  ggplot(aes(species, crown_g))+
  geom_boxplot(aes(fill = trt))+
  scale_fill_manual(values = c("#43AA8B", "#DB504A"))+
  labs(x = "Species",
       y = "Crown biomass (g)",
       fill = "Species")+
  theme_classic()+
  theme(aspect.ratio = 1)
```

