Practical Exercises for **Day 1**

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Exercise 1

- Open R Studio
- Open a new R-Script
- Load data set `chickwts`

```
data(chickwts)
head(chickwts)
# ?chickwts
```

- Do summary statistic (numerically and graphically)

```
summary(chickwts)
tapply(chickwts$weight, chickwts$feed, mean)
tapply(chickwts$weight, chickwts$feed, median)
tapply(chickwts$weight, chickwts$feed, sd)
table(chickwts$feed)
barplot(table(chickwts$feed))
boxplot(chickwts$weight ~ chickwts$feed)
# boxplot(weight ~ feed, data = chickwts)
hist(chickwts$weight)
hist(chickwts$weight, freq = FALSE)
lines(density(chickwts$weight), col = "red", lwd = 3)
boxplot(weight ~ feed, data = chickwts, col = "lightgray",
        varwidth = TRUE, main = "chickwt data",
        ylab = "Weight at six weeks (gm)")
barplot(table(chickwts$feed))
```

- For advanced R users: Try an anova (are the assumptions fulfilled?) and a Tukey-Anscombe plot.

  Try a histogram with a density line on top. ...

```
lm.mod <- lm(weight ~ feed, data = chickwts)
summary(lm.mod)
anova <- aov(weight ~ feed, data = chickwts)
TukeyHSD(anova)
summary(anova)
par(mfrow=c(2,2))
plot(lm.mod)
```