Some helpful R commands

- remember: `library(limma)`

- To normalize your data:
  ```r
  backgroundCorrect
  normalizeWithinArrays  # note that `normalizeWithinArrays` does the background correction automatically
  ```

- You should look at the argument options for the normalization commands. You have the option to do no normalization (`method="none"`).

- boxplots:
  ```r
  boxplot(data.frame(norm.data$M))  # boxplot for each array
  boxplot(data.frame(log2(orig.dat$Gb)))  # boxplot for each array on the green background data (before normalization)
  ```

- loess plots:
  ```r
  plotMA(norm.data)  # an MA loess plot for an array (or all arrays)
  scatter.smooth    # a loess plot for any (x,y) arrays
  ```

- loess curve/prediction:
  ```r
  scatter.smooth(x,y)
  l.pred <- loess(y~x)    # note the arguments to loess
  scatter.smooth(x,y-l.pred)
  ```

- Kolmogorov-Smirnov test of normality:
  ```r
  ks.test(norm.data$M[47,],"pnorm",mean(norm.data$M[47,]),sd(norm.data$M[47,]))
  ```

- qq-plot:
  ```r
  qqnorm
  cor(qqnorm(norm.data$M[47,])$x,qqnorm(norm.data$M[47,])$y)
  ```

- To look at the summary statistics:
  ```r
  summary(norm.data$M[47,])
  ```

- To choose random indices:
  ```r
  sample(1:20,3)
  sample(1:dim(norm.data$M)[1],10)  # note that dim gives the dimensions
  ```
  ```r
  try:  dim(norm.data$M)
  dim(norm.data$M)[1]
  ```