Exercise – Basic Summaries

Answer the following questions with R code by creating (*and editing if you make a mistake*) an R script and iteratively running the code in RStudio.

1. Load the data in the **LakeTroutALTER.csv** file into a data frame in R.

2. Summarize age in the following ways:
   (a) Construct age-frequency (number-at-age) and percentage-at-age tables.
   (b) Construct a bar chart of the percentage-at-age table.
   (c) Construct an age-percentage table separated by sex (e.g., what percentage of males were age-17?).

3. Summarize total length in the following ways:
   (a) Compute summary statistics of total length for all fish.
   (b) Construct a histogram of total length using 50-mm length increments.
   (c) Compute summary statistics of total length separately for each sex.
   (d) Construct a notched boxplot of total length separately for each sex.
   (e) Construct a stacked histogram of total length separately for each sex.

4. Examine the following relationships (graphically and, if appropriate, numerically):
   (a) Between total length and otolith radius.

5. If you have time ...
   (a) Construct a plot of total length, with approximate 95% confidence intervals, by age.
   (b) Construct a plot between total length and weight.
   (c) Construct separate histograms of total length for males and females.
   (d) Examine the relationship between age and total length.
   (e) Examine the relationship between age and total length with separate symbols for different sexes.