

Section 4: Plots for continuous variables

Review of important functions covered in this section:

Functions

stem	Stem-and-leaf display
stem.leaf	Stem-and-leaf display (aplpack package)
hist	Histogram
density	Density estimate
polygon	Polygon plot
curve	Draws curve based on provided function
rug	Adds rug to the current plot
Arguments of boxplot function	
boxwex	A scale that applies to all boxes
notch	A notch applied in each side if set as TRUE
outpch	Outlier symbol specification
varwidth	Width proportional to function of observation number if set as TRUE
boxcol	Box outline line color
boxlwd	Box outline line width
medcol	Median line col
whiskcol	Whisker color
whisklwd	Whisker line width
staplecol	staple color
staplelwd	staple line width
outcol	Outlier col
outlwd	Outlier line width
axes	Whether axes will be drawn
main	Title
sub	Sub-title
xlab	Horizontal axis title
ylab	Vertical axis title

Exercise

We'll work with `warpbreaks` dataset (The Number of Breaks in Yarn during Weaving).

- Find the breaks for those with A and B type of wool and save them separately as R object `bA` and `bB`.
- Draw stem and leaf display for `bA` and `bB` separately.
- Draw a back-to-back stem and leaf display for `bA` and `bB`. (Hint: use `aplpack` package)
- Draw histogram of `bA`.
- Draw the same histogram with `topo` color palettes.
- Plot a blue density plot using `bA` with vertical limit up to 0.05.
- Add a red density plot using the variable `bB`.
- Add a rug plot of `bA` and `bB`.

- i. Draw a yellow histogram of the object bA and add a blue polygon of the same variable on top of the histogram. In the same plot, add a green curve from gamma distribution with shape parameter 10 and scale parameter 3.15.
- j. Draw a boxplot of the object bB.
- k. Draw side-by-side-boxplots of the breaks categorized by wool variable.
- l. Draw light grey side-by-side-boxplots of the breaks categorized by tension variable, where width of the box is proportional to observation number, box color is blue, median line is red, whisker color is green, staple color is pink and outlier color is black.