# Homework 4

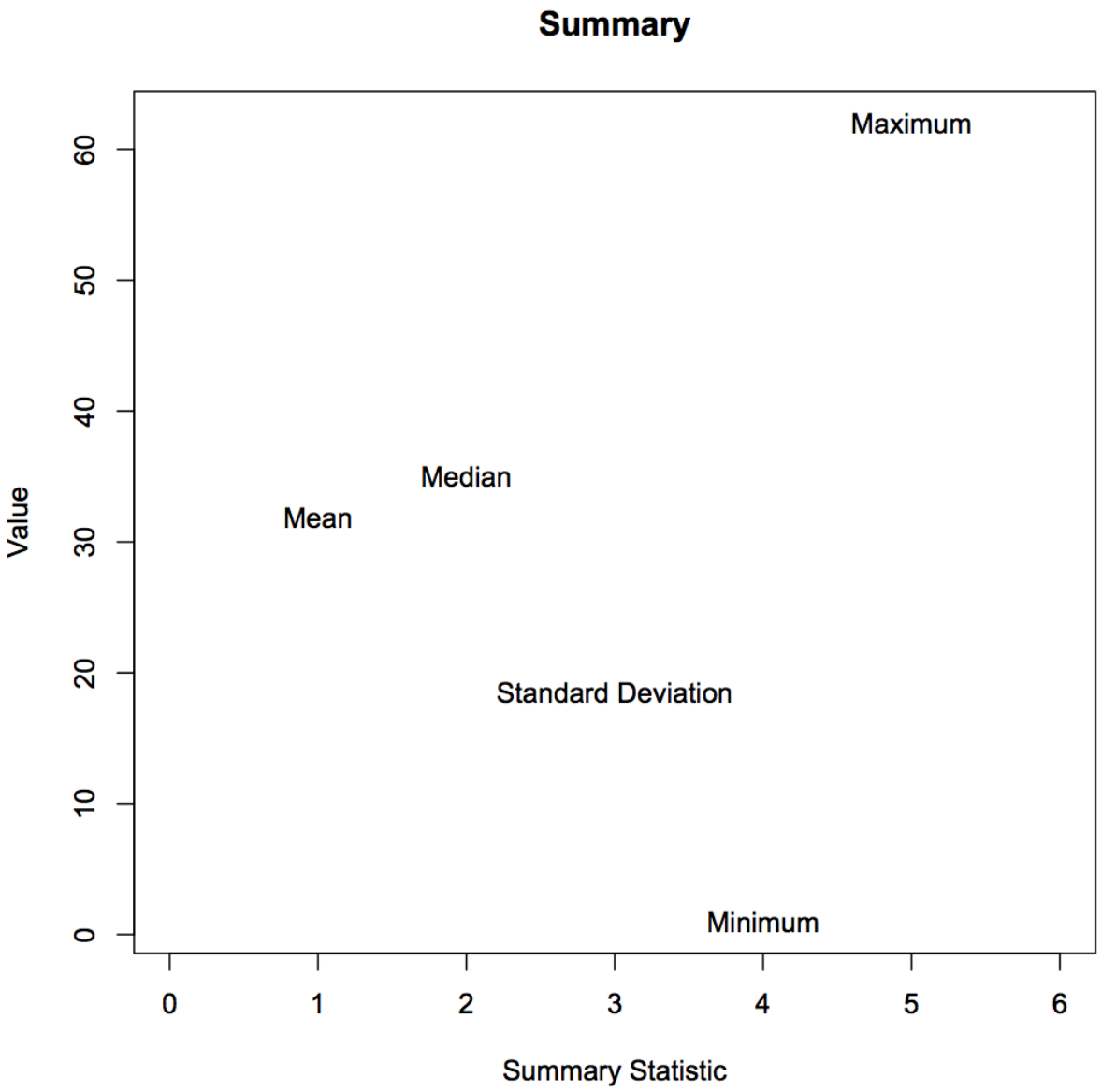
This homework is focused on writing and applying custom functions.

1. Write a function that reports the mean, median, standard deviation, minimum, and maximum values for a generic numeric vector, `x`. You can use the base functions.

- Make sure the function can handle missing data. Embed a message that reports if any missing data were removed.
- If the vector fed to the function is non-numeric, coerce it to be so, and embed a message stating that coercion occurred.
- Make the class of the output `smry`.
- Round the output to 3 decimal places.

2. Load the `ratebeer_beerjobber.txt` dataset, and apply the function to each of the final five columns. Bind these results together into a single data frame or matrix, with the row names indicating the variable.

3. Produce a default plot for objects of class `smry`. The x-axis should be 1:5, and rather than points, place text that states the summary statistic. The figure below shows an example. You will need to use the `text()` function.




4. Write a function to calculate the median of a generic vector, `x`. Compare the results of your function to the base call. Again make sure the function can handle missing data, and embed a warning if missing data are removed.

5. Write a function that takes a generic numeric vector, `x`, and produces a plot of the histogram with the density overlayed. Make sure the y-axis still refers to frequencies, rather than densities. Make the function generic enough that other arguments can be passed to `plot()`. Use the function to produce a plot of `abv`, with the line color changed, and modified x-axis label and title.