Exercise 1.1

Systolic blood pressure (SBP) in mmHg was measured in 100 patients. The mean (standard deviation) of SBP in the 100 patients was found to be 132.2 (20.7) mmHg. It was later noted that two of the 100 patients had missed the assessment and their SBP had mistakenly been recorded as 0.

a. What effect will the two values of 0 have had upon the mean and SD? Roughly, what values would you expect for the skew and kurtosis?

The two values of 0 were then recoded as missing and the mean and standard deviation was recalculated for the 98 patients with non-missing values.

b. Calculate (i) the mean SBP and (ii) the standard deviation of SBP for the 98 patients.

c. SBP was approximately normally distributed in the 98 patients. Approximately what proportion of patients have an SBP over 135 mmHg? How would you calculate the expected proportion of patients with an SBP>145 mmHg?

Exercise 1.2: Below are histograms for four numeric variables. Estimate (roughly) the mean, median, SD, skew and kurtosis. Which, if any, of the summary statistics for location and dispersion do you think would be appropriate to report for each variable?