

6G7Z1020

Assignment 2

Refer to the work you have done in the lab practical, the relevant examples and the exercises given in the lecture notes. For each answer, include your results in a formatted PDF document that contains your graph, one small paragraph with your comments and a separate section that includes your SAS code.

Questions

1 Antihistamine

Samples that contained 4 mg of an antihistamine (Chlorphenamine) were sent to 7 different laboratories, 1 per lab¹. The file `chlor.csv` contains 10 determinations (variable `meas`) per lab (variable `lab`).

- (a) Produce a numerical summary of the data by laboratory. [20]
- (b) Produce side-by-side boxplots of the seven distributions. [20]
- (c) Describe the main features of each distribution. Which lab has the most accurate measurements? Justify your response. [20]

2 Manchester Temperatures

The file `man.csv` contains the observed daily maximum air temperatures at Manchester for the period of 1/10/1973 to 1/10/2016 taken from the National Climatic Data Center database.

- (a) Plot a histogram. [20]
- (b) Comment on the shape of the distribution. [20]
- (c) Optional-no marks: It might be useful to experiment with the *number of bins*² at the histogram's options. Please note that no additional figures are necessary to answer this question.

¹From Rice, J., 1995, Mathematical statistics and data analysis, Statistics Series, Duxbury Press.

²If you use the SGPLOT procedure you can control the bin width with the BINWIDTH option.