

MA 542 Regression Analysis
SPRING 2018

HW-4

Due: M 02/12

You may use R for any part of this HW. Please read R codes for Chapter -3 for some R codes.

1. Chapter 2, page 94, question 2.32 (a)-(b)
2. Consider the data in question 1.21. (Airfreight breakage Example)
 - a) Prepare the box-plot of the residuals. What information is provided by your plot?
 - b) Plot the residuals e_i against the residuals \hat{Y}_i to see any departures from the regression model. State your conclusions.
 - c) Prepare a normal probability plot of the residuals. What is your conclusion?
 - d) Calculate the correlation coefficient between the ordered residuals and their expected values under normality. Does the normality assumption appear to be reasonable here?
3. Chapter 3, page 150, question 3.15 (a)-(b)
4. Discuss the appropriateness of the fitted SLR model using residual plots for drug concentration data in Ex. 3.11(pg-149) (Check all model departures discussed in the class).
5. Chapter 3, page 148, question 3.6 (only part e)
6. Chapter 3, page 151, question 3.21