

MATH 252-01: Probability and Statistics II

Problem Set 7

Assigned 2018 March 6
Due 2018 March 20

Show your work on all problems! If you use a computer to assist with numerical computations, turn in your source code as well.

1 Devore Chapter 9, Problem 60

Extra Credit: In addition to using Devore's Table A.9 to constrain the P -value to a range, use a statistical software package to find the actual values to three significant figures.

2 Devore Chapter 12, Problem 4

Note that problem 12.4 is different in the eighth and ninth editions of Devore. Be sure to do the problem from the ninth edition.

3 Devore Chapter 12, Problem 12

Note that problem 12.12 is different in the eighth and ninth editions of Devore. Be sure to do the problem from the ninth edition.

4 Computational Exercise

Download the following data sets:

http://ccrg.rit.edu/~whelan/courses/2018_1sp_MATH_252/data/ps07_prob4_set1.dat

http://ccrg.rit.edu/~whelan/courses/2018_1sp_MATH_252/data/ps07_prob4_set2.dat

using the username and password given in class.

Perform a linear regression on this pair of data sets using statistical software, and obtain

- The estimates $\hat{\beta}_0$, $\hat{\beta}_1$, and $\hat{\sigma}^2$.
- The coefficient of determination r^2 .
- A scatter plot of the data with the best-fit regression line shown.