Intro to Data Science
Regression
Lab 3

1 Estimating and interpreting model coefficients

File to use: Toy-Sales-pt1

We estimate / generate the model in Excel using the Regression function in Excel's Analysis ToolPak This gives us the coefficients / parameters of the regression model as well as associated info such as R-Squared, confidence intervals, etc that we will explore later.

2 Generating predictions from the model

File to use: Toy-Sales-pt2

We generate predictions from the model by substituting values for the various explanatory variables for the different scenarios that we wish to obtain a predicted value for.

3 Errors and Residuals

File to use: Toy-Sales-pt3

4 Hypothesis testing with t-cutoff

File to use: Toy-Sales-pt4

5 Hypothesis testing with p-values

File to use: Toy-Sales-pt5

6 Hypothesis testing with confidence intervals

File to use: Toy-Sales-pt6

7 Case Study: Home Prices

File to use: Home_Prices-pt7

8 R-Squared and Goodness of fit

File to use: Home_Prices-pt8

Point: If using the RANDBETWEEN function to generate the random numbers, you will need to select the entire range of cells first and then specify the RANDBETWEEN function and press Ctrl + Enter

9 Dummy variables to handle categorical variables

File to use: Deliveries-pt9

10 Interpretation of dummy variables for multiple categories

File to use: Deliveries-pt10

11 Case study: Refrigerators

File to use: Refrigerators-pt11

12 Multicollinearity case study

File to use: Cars-pt12

13 Mean Centering Variables

File to use: Height-and-Weight-pt13

14 Building Confidence Levels

File to use: Height-and-Weight-pt14

15 Interaction effects in Regression models

File to use: Height-and-Weight-pt15