

Name _____

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Mgt 264b
Regression Analysis with Applications to Marketing and Finance

Problem Set #5

This problem set is designed to reinforce the material on prediction and residual diagnostics in Chapter IV as well as to introduce the multiple regression model in Chapter V

1. Prediction Intervals

Use the Flat_Panel_TV dataset and a regression of Price on Size. For Size=50, use the predict() command to compute the 95 per cent prediction interval.

Construct the “back of the envelope” or approximate 95 PI as in the classnotes.

Explain why the PI computed by R is larger.

2. Residual Diagnostics

Plot residuals vs fitted from the regression of Price on Size in the Flat_Panel_TV data. Comment on the plot.

Test for normality of the residuals from the above regression using the normPlot command.

3. An Example of Multiple Regression

Regress Price on Size, Type, Brand with the flat panel tv data. Why is the s value lower than in the simple regression considered in Chapter II in class?

To use lm with more than one indep variable use the command:
lm(Y~X1+X2) to regress Y on X1 and X2.

The lm command creates two variables from the “Brand” variable. Why does it do this? hint: remember the question about the Type variable. this is the generalization.

Why does this show that Samsung has brand equity? (brand equity is the ability to command a price premium for the branded products).