

Skip Ch 6 (for now – return later)

Ch 7 Multivariate Linear Regression Models

Review of Multiple Regression

Example House Price Data p 368

MINITAB commands to get Regression Coefficients (Regression from Basics)

```

set c4          #create 1's for mean
20(1)
end
copy c4 c1 c2 m1 #create Z matrix
tran m1 m2      # transpose Z
mult m2 m1 m3   # compute Z'Z
inve m3 m4      # invert Z'Z
mult m4 m2 m5   # compute (Z'Z)-1Z'
copy c3 m6      # make "y" a vector
mult m5 m6 m7   # compute (Z'Z)-1Z'y
print m7       # print out the beta coefficients

```

Splus or R – how to do it from basics ?

Other things to do:

Residuals? $(Y - Z\hat{\beta})'$ $(Y - Z\hat{\beta})$ is sum of squares (minimized)

Influential Values (Leverages p 377)? Graphing. Probability Plots.

“Inference” - Estimation (CI) of Betas or Testing if zero. Extra SS tests.

R^2 and adjusted R^2 (p 381).

Prediction and Prediction Intervals. (pp 374 ff) for conditional means or for actual predicted values.

See pp 378-379.

Colinearity (p 382).

Comments: Usefulness of analysis of variance table?

Units of R^2

Beta exactly 0?
Interpretation of Beta.