

FA 2001
LAB 5
OCTOBER 1, 2001
FI=HOM0105 - contains both the lab and the homework

PURPOSE:

The purpose of this lab is to generate a simple regression, and interpret the b weight, and the constant.

YOU WILL USE THE SAME REGRESSION PROBLEM YOU LOOKED AT LAST WEEK. Last week you were looking at a scatterplot. Today you are looking at the same two variables - one predictor and one outcome - having examined the scatterplot last week this week you want to generate the simple regression output and interpret a few features of that output.

YOU CAN EARN EXTRA CREDIT: Your can work in groups if you want. Your group can earn extra credit by turning in a WRITTEN SUMMARY that interprets:

the b weight

the constant (a)

your interpretation must be in terms of the metric of the specific variables you are examining.

PLEASE TYPE THAT SUMMARY. Here are the regression problems. Work on the same one you worked on last week.

Y=HSRATE94
X=POVRA90

Y=POVRA90
X=DIVRATE2

Y=HSRATE82
Y=POVRA90

Y=PRISRA90
X=HSRATE82

Y = 1990 violent crime rate
X = 1985 violent crime rate

Y = PROPRA90
X = PROPRA85

Y= AVGPAY90
X= AVGPAY

Y=VIOLRA85
X=DIVRATE2

HOMEWORK
DUE: 10/8/01

Usual parameters apply. NO MORE THAN 2 PAGES

Complete TWO of the following simple regression problems

X=PRISRA85
Y=VIOLRA90

X=ALLBOOZ (per capita gallons of [beer+wine+spirits] purchased 1983)
Y=VIOLRA85

X=allbooz
Y=hsrate94 [high school graduation rate 1994]

X = prisra85
Y = divrate2

[for this problem, assume the divorce rate and imprisonment rate data are both coming from the same year, even though they are slightly different]

For each regression problem do the following:

- a) Introduce each variable and the data set, being sure to specify the metric of the variable (this will mean looking closely at the variable labels in the data file). Understanding the metric of each variable is crucial!
- b) Describe what the constant is telling you.
- c) Describe what the unstandardized regression coefficient (b weight) is telling you.
- d) Describe what the standardized regression coefficient (beta weight) is telling you.
- e) Summarize the relationship between these two variables and what processes might explain or underlie the relationship or lack of relationship that you see between these variables.