Problem Set #2
Sonoma State University
Economics 317- Introduction to Econometrics

Dr. Cuellar

(1) Use the data set Wage1.dta to answer the following questions.
   (i) Examine a scatter diagram between education and wages. Describe your graph.
   (ii) What is the correlation between education and wages? Discuss.
   (iii) What is the covariance between education and wages? Discuss.
   (iv) What is the covariance between education and wages when education is measured in months instead of years?
   (v) What is the correlation between education and wages when education is measured in months instead of years?
   (vi) Estimate the regression equation \( wage_i = \beta_0 + \beta_1 Education + u_i \)
   (vii) Interpret your regression coefficients.
   (viii) Show your regression line in your scatter diagram. How well does the regression fit the data?

(2) Use the data set Meap01.dta to answer the following questions.
   (i) Examine a scatter diagram between the percentage of people scoring satisfactory on the 4th grade math test and expenditures per pupil. Describe your graph.
   (ii) What is the correlation between the percentage of people scoring satisfactory on the 4th grade math test and expenditures per pupil? Discuss.
   (iii) What is the covariance between the percentage of people scoring satisfactory on the 4th grade math test and expenditures per pupil? Discuss.
   (iv) Estimate the regression equation \( Math4_i = \beta_0 + \beta_1 Expenditures Per Pupil_i + u_i \)
   (v) Interpret your regression coefficients.
   (vi) Show your regression line in your scatter diagram. How well does the regression fit the data?