Chapter 3-1 Practice

Jim Bang

Exercise

Using the *gpa*1 dataset do the following: 1. Regress college GPA (*colGPA*) on ACT score(*ACT*) and name the result *GPA.lm*1; 2. Regress college GPA on high school GPA (*hsGPA*) and ACT score, and name the result *GPA.lm*2.

Partition Regression

Use partitioned regression to partial out the effect of a company's matching rate to their employees' 401k plan on the plan's participation rates, controlling for the plan's age. Recall that to do this you need to:

1. Regress the outcome (*prate*) on the control (*age*) and extract the residuals (*prate.u*);
2. Regress the treatment (*mrate*) on the control (*age*) and extract the residuals (*mrate.u*);
3. Regress the residuals of participation on the residuals of matching (name this *prate.lm*1 and note that the coefficient matches the *mrate* coefficient in example 3.3 in the book);
4. Summarize the final residual regression.
5. Plot the outcome residuals (*prate.u*) on the treatment residuals (*mrate.u*)
6. Add the regression line.