

Problem Set 3

1. Hayashi Chapter 7, page 469, #4, page 501 # 1.
2. Here we will use Matlab to use the NLS Probit estimator using the Gauss Newton Method. (See the answer to question 2 on page 500 of Hayashi to see how.)
 - (a) Download the Excel file hitstat.xls from the class web page: the columns correspond to at bats, home runs, rbis, stolen bases and price of the player. First construct a dummy left hand side variable which is 1 if the price exceeds 15 and 0 otherwise. Do NLS Probit of this dummy on an intercept, homeruns, rbis and stolen bases. Construct a 95% confidence interval for each of the coefficients.
3. To further familiarize ourselves with downloading data and running regressions with MATLAB, we will work with the well-studied Stanford heart transplant data set, first published in 1980. Summarized in the data set for the problem set question are the survival times for 103 patients, as well as the age of the patient at the time of transplant. We are interested in estimating the linear regression model with survival time as the dependent variable and 3 regressors- 1) a constant 2) age 3) age². All I want here is for you to download the data set, evaluate the projection matrix, and evaluate the regression coefficients.