Professor Atkinson

This project has only four questions. However, these may take considerable time to complete. All page numbers refer to Wooldridge 2nd edition. If you do not have this edition, it is your responsibility to find a copy and make sure you are doing this project correctly. I also strongly recommend that you do these projects individually, not in groups; the former method is the only way you will learn the econometrics.

1) Probit with Endogenous Explanatory Variable. At the bottom of page 587, Wooldridge tests the null hypothesis that EDUC is exogenous in the married women’s labor force participation equation.
   a. Reproduce his results as discussed in the last full paragraph bottom on page 587 using the canned Stata program, ivprobit, and the ML program statement I gave you.
   b. What do you conclude about endogeneity?
   c. Compute the partial effect of $nwifeinc$ in eq. (15.49).

2) Bootstrap for the two-step model.
   a. Bootstrap the two-step handwritten model using the pairs method with 500 replicates (using a pairs program similar to the one in maximum likelihood.do).
   b. Do the ivprobit two-step estimation (non-maximum likelihood) results automatically do a pairs bootstrap correction to the estimated standard errors?

3) Multinomial Logit and Average Partial Effects.
   a. Reproduce all the results associated with multinomial logit example 16.1 on page 645 by first running the canned multinomial logit routine in Stata.
   b. Compute in Stata the hand-written MLE. Be sure to impose the required restrictions where the coefficients for the first choice are set to zero.

4) Ordered Probit.
   a. Reproduce the results of example 16.2 on page 657 of Wooldridge using the canned ordered probit and a handwritten maximum likelihood routine.