ECON 101 - TA section 1

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September 30, 2019

What we will cover in this section:

- server:
  - How to load files in the server;
  - How to log into the server;
  - Some basic server commands about directories and copying files;
- Stata:
  - How to load Stata in the server;
  - What are macros, and why should we use them?
  - opening up a data-set and labeling and creating some variables;
  - making loops in Stata;
  - making and exporting graphs in Stata;
  - running regressions and exporting output tables.
- If we have time:
  - How to submit jobs in the server.

1 Server

If you are using a Windows computer you may need to install a program that allows you to connect to servers. I use mobaXterm, it's very easy to download and install.

If you are using a Mac you have a terminal, but it doesn't have all the functionalities that we might need for this class. The program XQuartz will have all the functionalities we are going to need, also very easy to download and install.

While using the command line in the server if you want documentation for any command you can always just type *manual* followed by the command name.

1.1 How to load files in the server

There are several ways to do it, here I am going to show how to do it at the command line. Check where in your PC is located your data file in my computer it is on "D:\hrs92-16.dta". Open either mobaXterm or XQuartz (or your other preferred program).

The command that transfer files between your local computer and the server is called *scp* try looking at its documentation. It's important to keep in mind that it only works when your are NOT

logged-into the server. To transfer the data file from my pc to the server for example I would have to run the following line:

```
scp \drives\d\hrs92-16.dta myID@rice.stanford.edu:~
```

It will ask for your Staford password and two factor authentication.

1.2 How to log into the server

The command that logs in the server is *ssh* to log in the rice server using it I would have to run the following line on windows:

```
ssh myID@rice.stanford.edu
```

and on mac:

```
ssh -Y myID@rice.stanford.edu
```

1.3 Some basic server commands about directories and copying files

- *cd*: changes directories
- *ls*: list all contents of the current directory
- *mkdir*: creates a folder in the current directory
- *cp*: copy files between directories
- *rm*: removes files

2 Stata

2.1 How to load Stata in the server

To load the latest version of Stata in the server you just need to run the following command:

```
module load stata-mp
```

if you want to see a list of available modules in the server just run

```
module avail
```

To open Stata in interactive mode

```
xstata-mp
```

To open the documentation of any command in Stata you just need to type *help* followed by the command name.

2.2 What are macros and why should we use them?

Macros save a sequence of strings that you may need to refer to multiple times in the do-file.

- *global*: saves the string across programs;
- *local*: saves the string within a program.

2.3 opening up a data-set and labeling and creating some variables

- *use* opens a ".dta" data-set in Stata;
- *import* opens other types of data;
- *gen* generates new variables;
- *egen* generates new variables using more complex functions (means,sum,sd);
- *label* labels variables
- *rename* renames the variable

2.4 Making loops in Stata

- *forvalues*: loops over a sequence of numbers
- *foreach*: loops over a list of strings or numbers

2.5 making and exporting graphs in Stata

- *twoway* creates many types of graphs in stata;
- *graph exports* exports the graphs

2.6 running regressions and exporting output tables

- *reg* runs regressions
- *outreg2* is a package that export regression tables