Appendix B

Do Files

It is often very useful to save commands you are using. Suppose you completed an entire lab and then realized that you had used the wrong dataset or one of the original variables you created was incorrect. If you had all the commands saved somewhere, all you would need to do is fix the offending line and re-run the commands. A do-file allows you to do just that.

A do-file is simply a text file that contains a list of *Stata* commands. A do-file is typically saved with a *.do* extension.

***** Important *****

First, change your working directory by clicking on the File menu and selecting "Set Working Folder." The default is your "Documents" folder. This is the correct location, so click on the "Choose" button. Now any files you save will show up in your documents folder.

Creating a file from Scratch

To create a new do-file, type the following command.

```
. doedit
```

This will open the do-file edit window. Type your commands right into this window. Make certain that each line contains exactly one correct *Stata* command. For example, suppose you wanted to create a do-file for the *Stata Coding and Birthdays* lab. You might type the following series of commands into your edit window:

```
use http://www.stat.ucla.edu/labs/datasets/birthdays.dta
rename var1 birthday
rename var2 numbirths
            ⋮
```

To save your file, simply click on the "File" menu and select the "Save As. . . " option. *Stata* automatically appends the *.do* extension. Name your file anything you like.

To run your do-file, you type `do` and then the filename. Suppose I had named my do-file *birthday.do*, I would type

```
. do birthday.do
```

Stata will now proceed to do every command in your do-file. If there is a mistake in the file, *Stata* will stop at that point issuing an error message. Re-open your do-file by typing

```
. doedit birthday.do
```

Fix your mistake, and try again.

Creating a Do-File after Analysis has Begun

Do-files are great if you know ahead of time that you will want to save all the commands you issue, but often we proceed with an analysis and then wish that we could save the commands. Well, that is possible too. The *Review* window keeps track of all the commands that we input into *Stata*, we can save these commands into a file.

Now, suppose you have been working on the *Stata Coding and Birthdays* lab and you did not think to begin by creating a do-file, but at some point you realize that you would like to save all the work you have done so far.

Hold down the Control button on the keyboard and click on the Review window. You now have two options. First, "Copy Review Contents to Do-file Editor". This will open the do-file editor window with the contents of the review window pasted in. Second, "Save Review Contents...". This method allows you to save the file as a do-file. Click on "Save Review Contents..." and save the file with an appropriate name, such as `birthday.do`. Now type the following command.

```
. doedit birthday
```

This will bring up a text window with the commands you entered. A few corrections need to be made before this file will run. Add the command `clear` to the first line of the file. This is needed if data is already in *Stata* memory. The do-file won't run without it. Once you have added that command, re-save the do-file.

The next step is more user dependent. You need to clean up any potential errors you made when working through your analysis. Try *doing* the do-file.

```
. do birthday
```

What happens? Does it run all the way through until you see `end of do-file` in green? Or do you get a red error message? If you encounter a red error message, you need to find the error in the do-file and remove it. Basically, your do-file should consist of one correct command per line. Clean up your do-file until it runs through.

You can now run your do-file, but you may notice a problem. The graphs and output fly by! If, for example, you want to print or save any of the graphs, this may be a problem. You can avoid this by doing only part of your do-file at a time. Highlight the portion you want to *do*. Then click on the "Do current file" button in the do-file editor window. Only the portion highlighted will be processed.

Useful Tips for Do-Files

You now know the basics of do-files, but there are lots of ways to make them more useful. For example, sometimes you just want to make sure your do-file is running and don't want to worry about scrolling through the output. Add the command `set more off` in the beginning of your do-file.

The first command of any do-file should tell *Stata* what version you created the do-file in. For example, we are currently running *Stata* Version 8.0, so the first command should be `version 8`.

Commenting do-files can help you remember what they are doing or what the data is about. The comment indicators are /* */, //, ///, and *. The * comment indicator should be used only at the beginning of a line, but // and /// can be used at either the beginning or at the end of a line. You can use /* */ anywhere in a line, with the comment between the *s. See below for an example of commenting usages.

```
* Analysis for Stata Coding and Birthdays Lab.
version 8
set more off       // to make code run without pausing

use http://www.stat.ucla.edu/labs/datasets/birthdays.dta
describe
list
rename var1 birthday /// renaming variables
rename var2 /* variable is the number of births */ numbirths
```

Stata also allows you to break up commands over many lines in a do-file. Normally the end of a line ends a *Stata* command in a do-file. You can change this using the `delimit` command and tell *Stata* to end a command with a ';' instead. This helps when you have long commands. For example, in the *Constructing Confidence Intervals* lab there is an extremely long graph command, we can break this up as follows:

```
#delimit ;
twoway (rcap upper68 lower68 num)
       (rcap upper68 lower68 num
             if upper68 < -12.567 | lower68 > -12.567,
             blcolor(red))
       (scatter bs_1 num, msymbol(o)),
       yline(-12.567)
       title("100 68% confidence intervals from samples n=16")
;
#delimit cr
```

One more useful command sequence in *Stata* allows you to save the output of the do-file. This is called a log file. Enter the command `log using FILENAME, replace` before any analysis commands in your do-file and the command `log close` at the end of your do-file. This will save all the output into a file called `FILENAME.smcl` and can be viewed by the command `view FILENAME.smcl`. You may want this to be a text file instead of a *Stata* file. The command `translate FILENAME.smcl FILENAME.log` will accomplish this.