```stata
  1    *cd "C:\Users\stellalong\OneDrive - CUHK-Shenzhen\econ 3211 policy evaluation\Tut 3"
  2
  3    //APPENDING NEW DATA
  4    webuse odd1.dta, clear
  5    save odd1, replace
  6    *browse
  7    webuse even, clear
  8    *browse
  9    append using "odd1.dta", gen(filenum) //"filenum" tracks the origin
 10    *compare with the example in the pdf.
 11
 12    //MERGING TWO DATASETS TOGETHER
 13    webuse autosize, clear
 14    save autosize, replace
 15    webuse autoexpense, clear
 16    * ctrl + D = click Do button
 17    merge 1:1 make using "autosize.dta", gen(filenum)
 18    *browse
 19    *draw a venn graph here to show the comparison between append and merge
 20
 21    *many-to-one merge (only changes 1:1 into m:1)
 22    *see the graph in pdf.
 23
 24    //Data visualization
 25    sysuse auto, clear
 26    *mpg is a variable.
 27    *foreign and rep78 are variables.
 28
 29    //single variable, continuous
 30    histogram mpg, width(5) freq kdensity kdenopts(bwidth(5))
 31
 32    kdensity mpg, bwidth(3)
 33
 34    //single variable, discrete
 35    graph bar (count), over(foreign, gap(*0.5)) intensity(*0.5)
 36
 37    graph bar (percent), over(rep78) over(foreign)
 38
 39    //two+ variables, continuous
 40    graph matrix mpg price weight, half
 41
 42    twoway scatter mpg weight, jitter(7)
 43
 44    twoway scatter mpg weight, mlabel(mpg)
 45
 46    twoway connected mpg price, sort(price)
 47
 48    twoway area mpg price, sort(price)
 49    *don't worry. click click
 50
 51    //Plot regression coefficients
 52    *sysuse auto, clear
 53    ssc install coefplot
 54    regress price mpg headroom trunk length turn // we could define local marco here if the variables
       are utilized frequently
 55    coefplot, drop(_cons) xline(0)
 56
 57
 58    //Juxtapose and Overlaying graphs (plot placement)
 59    twoway scatter mpg price, by(foreign, norescale)
 60
 61    graph twoway scatter mpg price in 27/74 || scatter mpg weight //combine twoway plots using ||
 62
 63    graph combine plot1.gph plot2.gph //combine two or more saved graphs into a single plot
 64
 65    scatter y3 y2 y1 x, msymbol(i o i) mlabel(var3 var2 var1) //plot several y values for a single x
       value
 66
```

```stata
67    //The Graph Editor
68    *1. right click the graph to change anything you like to change Or
69    twoway scatter mpg price, play(graphEditorTheme) //2. by option , play(graphEditorTheme)
70
71
72    //Save plots
73    *Click in the graph window to save the picture/ export to PDF Or
74    *Below learn by yourself
75    graph twoway scatter y x, saving("myPlot.gph") replace //1. drawing and saving at one time
76    graph save "myPlot.gph", replace //2. plotting first then save
77    graph export "myPlot.pdf", as(.pdf) //3. export to PDF
```