How To Choose A Chart - A Statistically Informed Visual Guide With Stata Commands

Continuous

histogram
`histogram x`

density
`kdensity x`

bar graph of mean
`graph bar x`

dotplot
`dotplot x`
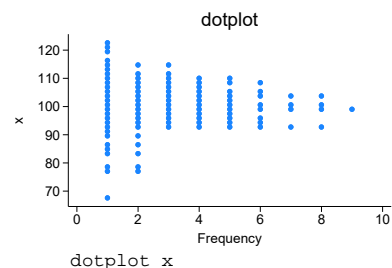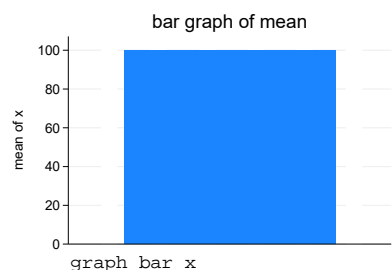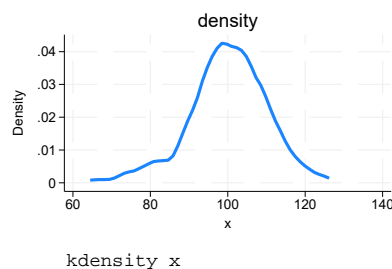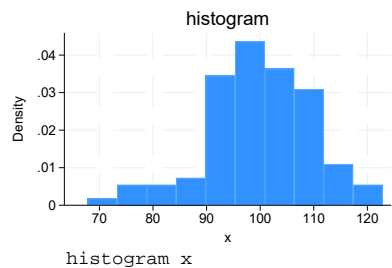
Continuous by Categorical

histogram
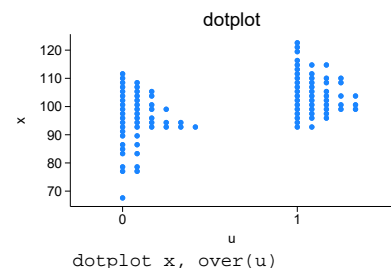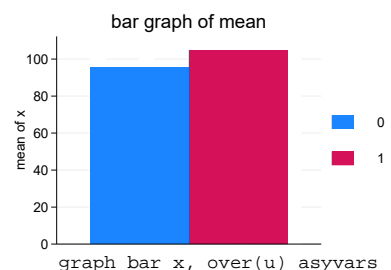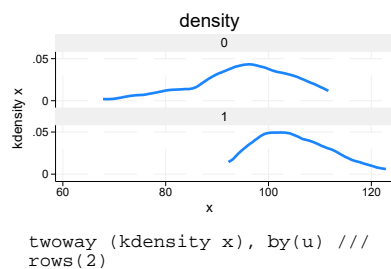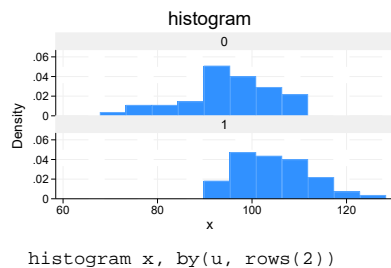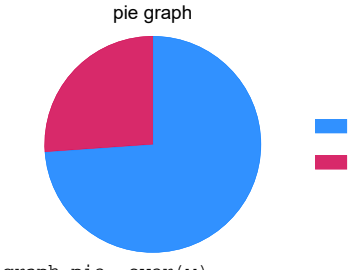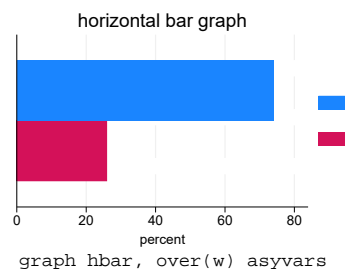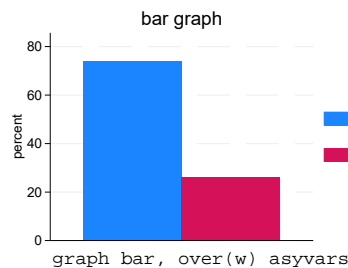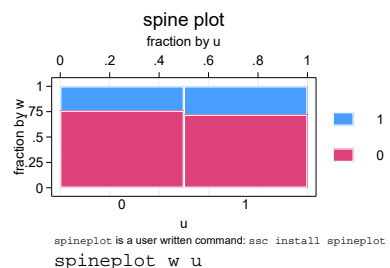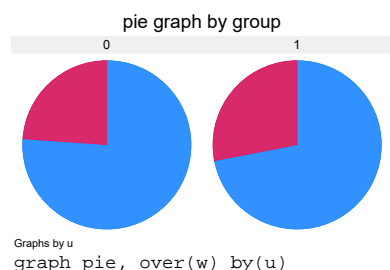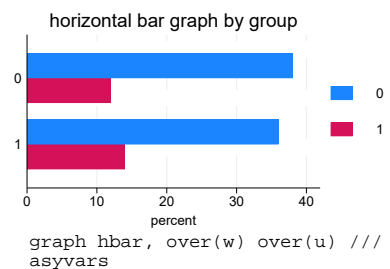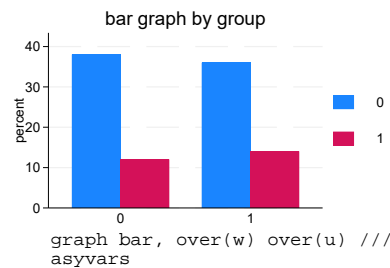`histogram x, by(u, rows(2))`

density
`twoway (kdensity x), by(u) ///`
`rows(2)`

bar graph of mean
`graph bar x, over(u) asyvars`

dotplot
`dotplot x, over(u)`

Categorical

bar graph
`graph bar, over(w) asyvars`

horizontal bar graph
`graph hbar, over(w) asyvars`

pie graph
`graph pie, over(w)`

Categorical by Categorical

bar graph by group
`graph bar, over(w) over(u) ///`
`asyvars`

horizontal bar graph by group
`graph hbar, over(w) over(u) ///`
`asyvars`

pie graph by group
`graph pie, over(w) by(u)`

spine plot
spineplot is a user written command: ssc install spineplot
`spineplot w u`

Continuous by Continuous

scatterplot
`twoway scatter y x`

heatplot
heatplot is a user written command: ssc install heatplot
`heatplot y x, colors(hcl bluered)`

scatterplot with linear fit
`twoway (scatter y x) (lfit y x)`

scatterplot with smoother
`twoway (scatter y x) (lowess y x)`
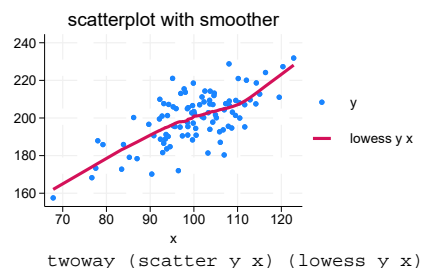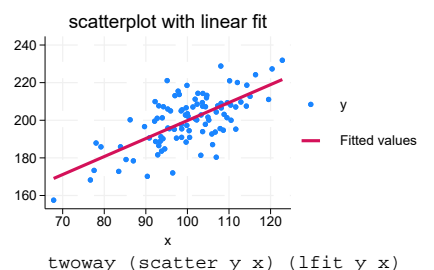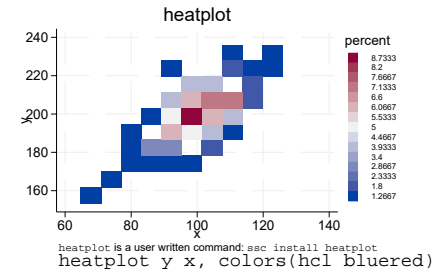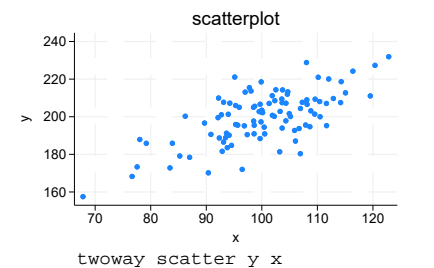
Stata is often incredibly intuitive. The general idea of most Stata commands is `command variable(s), options`.
Often it is not necessary to use any options since the authors of Stata have done such a good job of thinking about the defaults.
Stata commands are in `monospaced font`.
I try to present the simplest version of a command, but this handout occasionally makes use of the option `lwidth(thick)`
to tweak the line width. I use `imargin(zero)` to tweak the placement of the pie graph.
I use the `stcolor` graph scheme, available in the newest version of Stata.
Asjad Naqvi has provided many beautiful graph schemes in `schemepack`: https://github.com/asjadnaqvi/stata-schemepack
Option `asyvars` is not strictly necessary, but means that bar graphs will have bars of different colors.
`///` represents a line break. On the command line, do not use `///` and type the command on a single line.

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