linestyle — Choices for overall look of lines	

Description

linestyle sets the overall pattern, thickness, color, and alignment of a line; see [G-4] **Concept: lines** for more information.

linestyle is specified via options named

⟨*object*⟩⟨l or li or line⟩style()

or

⟨l or li or line⟩style()

For instance, for connecting lines (the lines used to connect points in a plot) used by graph twoway function, the option is named lstyle():

    . twoway function ..., lstyle(*linestyle*) ...

Sometimes you will see that a *linestylelist* is allowed:

    . twoway line ..., lstyle(*linestylelist*) ...

A *linestylelist* is a sequence of *linestyles* separated by spaces. Shorthands are allowed to make specifying the list easier; see [G-4] ***stylelists***.

Syntax

linestyle	Description
foreground	borders, axes, etc., in foreground color
grid	grid lines
minor_grid	a lesser grid line or same as grid
major_grid	a bolder grid line or same as grid
refline	reference lines
yxline	yline() or xline()
none	nonexistent line
p1–p15	used by first–fifteenth "line" plot
p1bar–p15bar	used by first–fifteenth "bar" plot
p1box–p15box	used by first–fifteenth "box" plot
p1area–p15area	used by first–fifteenth "area" plot
p1solid–p15solid	same as p1–p15 but always solid
p1mark–p15mark	markers for first–fifteenth plot
p1boxmark–p15boxmark	markers for outside values of box plots
p1dotmark–p15dotmark	markers for dot plots
p1other–p15other	"other" lines, such as spikes and range plots

Other *linestyles* may be available; type

```
. graph query linestyle
```

to obtain the full list installed on your computer.

Remarks and examples

Remarks are presented under the following headings:

What is a line?
What is a linestyle?
You do not need to specify a linestyle
Specifying a linestyle can be convenient
What are numbered styles?
Suppressing lines

What is a line?

Nearly everything that appears on a graph is a line, the exceptions being markers, fill areas, bars, and the like, and even they are outlined or bordered by a line.

What is a linestyle?

Lines are defined by the following attributes:

1. *linepattern*—whether it is solid, dashed, etc.;
   see [G-4] *linepatternstyle*

2. *linewidth*—how thick the line is;
   see [G-4] *linewidthstyle*

3. *linecolor*—the color and opacity of the line;
   see [G-4] *colorstyle*

4. *linealignment*—the alignment of the outline or border of markers, fill areas, bars, and boxes;
   see [G-4] *linealignmentstyle*

The *linestyle* specifies all of these attributes.

You do not need to specify a linestyle

The *linestyle* is specified in options named

⟨*object*⟩⟨l or li or line⟩style(*linestyle*)

Correspondingly, the following other options are available:

⟨*object*⟩⟨l or li or line⟩pattern(*linepatternstyle*)

⟨*object*⟩⟨l or li or line⟩width(*linewidthstyle*)

⟨*object*⟩⟨l or li or line⟩color(*colorstyle*)

⟨*object*⟩⟨l or li or line⟩align(*linealignmentstyle*)

Often the ⟨*object*⟩ prefix is not required.

You specify the *linestyle* when a style exists that is exactly what you want or when another style would allow you to specify fewer changes to obtain what you want.

Specifying a linestyle can be convenient

Consider the command

```
. line y1 y2 x
```

Assume that you wanted the line for y2 versus x to be the same as y1 versus x. You might set the pattern, width, and color of the line for y1 versus x and then set the pattern, width, and color of the line for y2 versus x to be the same. It would be easier, however, to type

```
. line y1 y2 x, lstyle(p1 p1)
```

lstyle() is the option that specifies the style of connected lines. When you do not specify the lstyle() option, results are the same as if you specified

```
lstyle(p1 p2 p3 p4 p5 p6 p7 p8 p9 p10 p11 p12 p13 p14 p15)
```

where the extra elements are ignored. In any case, p1 is one set of pattern, thickness, and color values; p2 is another set; and so on.

Say that you wanted y2 versus x to look like y1 versus x, except that you wanted the line to be green; you could type

```
. line y1 y2 x, lstyle(p1 p1) lcolor(. green)
```

There is nothing special about the *linestyles* p1, p2, ...; they merely specify sets of pattern, thickness, and color values, just like any other named *linestyle*. Type

```
. graph query linestyle
```

to find out what other line styles are available. You may find something pleasing, and if so, that is more easily specified than each of the individual options to modify the individual elements.

Also see *Appendix: Styles and composite styles* in [G-2] **graph twoway scatter** for more information.

What are numbered styles?

p1–p15 are the default styles for connecting lines in all twoway graphs, for example, twoway line, twoway connected, and twoway function. p1 is used for the first plot, p2 for the second, and so on. Some twoway graphs do not have connecting lines.

p1bar–p15bar are the default styles used for outlining the bars on bar charts; this includes twoway bar charts and bar charts. p1bar is used for the first set of bars, p2bar for the second, and so on.

p1box–p15box are the default styles used for outlining the boxes on box charts. p1box is used for the first set of boxes, p2box for the second, and so on.

p1area–p15area are the default styles used for outlining the areas on area charts; this includes twoway area charts and twoway rarea. p1area is used for the first filled area, p2area for the second, and so on.

p1solid–p15solid are the same as p1–p15, but the lines are always solid; they have the same color and same thickness as p1–p15.

p1mark–p15mark are the default styles for lines used to draw markers in all twoway graphs, for example, twoway scatter, twoway connected, and twoway rcapsym. p1mark is used for the first plot, p2mark for the second, and so on.

The *linepatternstyle* attribute is always ignored when drawing symbols.

p1boxmark–p15boxmark are the default styles for drawing the markers for the outside values on box charts. p1box is used for the first set of dots, p2box for the second, and so on.

p1dotmark–p15dotmark are the default styles for drawing the markers on dot charts. p1dot is used for the first set of dots, p2dot for the second, and so on.

p1other–p15other are the default styles used for "other" lines for some twoway plottypes, including the spikes for twoway spike and twoway rspike and the lines for twoway dropline, twoway rcap, and twoway rcapsym. p1other is used for the first set of lines, p2other for the second, and so on.

The "look" defined by a numbered style, such as p1, p1mark, p1bar, etc.—by "look" we mean width (see [G-4] *linewidthstyle*), color (see [G-4] *colorstyle*), and pattern (see [G-4] *linepatternstyle*)—is determined by the scheme (see [G-4] **Schemes intro**) selected.

Numbered styles provide default looks that can be controlled by a scheme. They can also be useful when you wish to make, say, the second "thing" on a graph look like the first. See *Specifying a linestyle can be convenient* above for an example.

Suppressing lines

Sometimes you want to suppress lines. For instance, you might want to remove the border around the plot region. There are two ways to do this: You can specify

⟨*object*⟩⟨l or li or line⟩style(none)

or

⟨*object*⟩⟨l or li or line⟩color(*color*)

The first usually works well; see *Suppressing the axes* in [G-3] *axis_scale_options* for an example.

For the outlines of solid objects, however, remember that lines have a thickness. Removing the outline by setting its line style to none sometimes makes the resulting object seem too small, especially when the object was small to begin with. In those cases, specify

⟨*object*⟩⟨l or li or line⟩color(*color*)

and set the outline color to be the same as the interior color.

Reference

Cox, N. J. 2009. Stata tip 82: Grounds for grids on graphs. *Stata Journal* 9: 648–651.

Also see

For suggested citations, see the FAQ on citing Stata documentation.