

**linestyle** — Choices for overall look of lines[Description](#)[Syntax](#)[Remarks and examples](#)[Reference](#)[Also see](#)

## 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><1 or li or line>style()
```

or

```
<1 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

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

Other *linestyles* may be available; type

```
. graph query linestyle
```

to obtain the full list installed on your computer.

## Remarks and examples

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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><1 or li or line>style(linestyle)
```

Correspondingly, the following other options are available:

```
<object><1 or li or line>pattern(linepatternstyle)
```

```
<object><1 or li or line>width(linewidthstyle)
```

```
<object><1 or li or line>color(colorstyle)
```

```
<object><1 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  $y_2$  versus  $x$  to be the same as  $y_1$  versus  $x$ . You might set the pattern, width, and color of the line for  $y_1$  versus  $x$  and then set the pattern, width, and color of the line for  $y_2$  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,  $p_1$  is one set of pattern, thickness, and color values;  $p_2$  is another set; and so on.

Say that you wanted  $y_2$  versus  $x$  to look like  $y_1$  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*  $p_1$ ,  $p_2$ , ...; 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?

$p_1$ – $p_{15}$  are the default styles for connecting lines in all **twoway** graphs, for example, **twoway line**, **twoway connected**, and **twoway function**.  $p_1$  is used for the first plot,  $p_2$  for the second, and so on. Some **twoway** graphs do not have connecting lines.

$p_{1bar}$ – $p_{15bar}$  are the default styles used for outlining the bars on bar charts; this includes **twoway bar** charts and **bar charts**.  $p_{1bar}$  is used for the first set of bars,  $p_{2bar}$  for the second, and so on.

$p_{1box}$ – $p_{15box}$  are the default styles used for outlining the boxes on **box charts**.  $p_{1box}$  is used for the first set of boxes,  $p_{2box}$  for the second, and so on.

$p_{1area}$ – $p_{15area}$  are the default styles used for outlining the areas on area charts; this includes **twoway area** charts and **twoway rarea**.  $p_{1area}$  is used for the first filled area,  $p_{2area}$  for the second, and so on.

$p_{1solid}$ – $p_{15solid}$  are the same as  $p_1$ – $p_{15}$ , but the lines are always solid; they have the same color and same thickness as  $p_1$ – $p_{15}$ .

$p_{1mark}$ – $p_{15mark}$  are the default styles for lines used to draw markers in all **twoway** graphs, for example, **twoway scatter**, **twoway connected**, and **twoway rcapsym**.  $p_{1mark}$  is used for the first plot,  $p_{2mark}$  for the second, and so on.

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

$p_{1boxmark}$ – $p_{15boxmark}$  are the default styles for drawing the markers for the outside values on **box charts**.  $p_{1box}$  is used for the first set of dots,  $p_{2box}$  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

[\[G-4\] concept: lines](#) — Using lines

[\[G-4\] colorstyle](#) — Choices for color

[\[G-4\] connectstyle](#) — Choices for how points are connected

[\[G-4\] linealignmentstyle](#) — Choices for whether outlines are inside, outside, or centered

[\[G-4\] linepatternstyle](#) — Choices for whether lines are solid, dashed, etc.

[\[G-4\] linewidthstyle](#) — Choices for thickness of lines