**Description**

yline(), xline(), and tline() are used with `twoway` to add lines to the plot region. tline() is an extension to xline(); see [TS] tsline for examples using tline().

**Quick start**

Add a horizontal line at the value 0

```plaintext
graph_command ..., ... yline(0)
```

Add horizontal lines at the values of 9, 11, and 17

```plaintext
graph_command ..., ... yline(9 11 17)
```

Add a vertical line at the value of 17.2

```plaintext
graph_command ..., ... xline(17.2)
```

As above, but add a thin red line

```plaintext
graph_command ..., ... xline(17.2, lwidth(thin) lcolor(red))
```

As above, but specify line width as 1 point

```plaintext
graph_command ..., ... xline(17.2, lwidth(1pt) lcolor(red))
```

Add a vertical line on June 29, 2016

```plaintext
graph_command ..., ... tline(29jun2016)
```

Add a red vertical line at 10 and a blue one at 20

```plaintext
graph_command ..., ... xline(10, lcolor(red)) xline(20, lcolor(blue))
```
## Syntax

<table>
<thead>
<tr>
<th><strong>added_line_options</strong></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;yline(linearg)&quot;</td>
<td>add horizontal lines at specified ( y ) values</td>
</tr>
<tr>
<td>&quot;xline(linearg)&quot;</td>
<td>add vertical lines at specified ( x ) values</td>
</tr>
<tr>
<td>&quot;tline(time_linearg)&quot;</td>
<td>add vertical lines at specified ( t ) values</td>
</tr>
</tbody>
</table>

\( yline() \), \( xline() \), and \( tline() \) are merged-implicit; see \([G-4]\) Concept: repeated options and see Interpretation of repeated options below.

where \( linearg \) is

\[
\text{numlist} \ [, \ \text{suboptions}]
\]

For a description of \( \text{numlist} \), see \([U] \text{11.1.8 numlist}\).

and where \( time\_linearg \) is

\[
\text{datelist} \ [, \ \text{suboptions}]
\]

For a description of \( \text{datelist} \), see \([U] \text{11.1.9 datelist}\).

<table>
<thead>
<tr>
<th><strong>suboptions</strong></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>axis(#)</td>
<td>which axis to use, ( 1 \leq # \leq 9 )</td>
</tr>
<tr>
<td>style(\textit{addedlinestyle})</td>
<td>overall style of added line</td>
</tr>
<tr>
<td>[no] extend</td>
<td>extend line through plot region’s margins</td>
</tr>
<tr>
<td>lstyle(\textit{linestyle})</td>
<td>overall style of line</td>
</tr>
<tr>
<td>lpattern(\textit{linepatternstyle})</td>
<td>line pattern (solid, dashed, etc.)</td>
</tr>
<tr>
<td>lwidth(\textit{linewidthstyle})</td>
<td>thickness of line</td>
</tr>
<tr>
<td>lalign(\textit{linealignmentstyle})</td>
<td>outline alignment (inside, outside, center)</td>
</tr>
<tr>
<td>lcolor(\textit{colorstyle})</td>
<td>color and opacity of line</td>
</tr>
</tbody>
</table>

## Options

\( yline(linearg) \), \( xline(linearg) \), and \( tline(time\_linearg) \) specify the \( y \), \( x \), and \( t \) (time) values where lines should be added to the plot.

## Suboptions

\( \text{axis}(\#) \) is for use only when multiple \( y \), \( x \), or \( t \) axes are being used (see \([G-3]\) \textit{axis\_choice\_options}). \( \text{axis}() \) specifies to which axis the \( yline() \), \( xline() \), or \( tline() \) is to be applied.

\( \text{style}(\textit{addedlinestyle}) \) specifies the overall style of the added line, which includes \[\text{no}\] \text{extend} and \( \text{lstyle}(\textit{linestyle}) \) documented below. See \([G-4]\) \textit{addedlinestyle}. The \[\text{no}\] \text{extend} and \( \text{lstyle}() \) options allow you to change the added line’s attributes individually, but \( \text{style}() \) is the starting point.
You need not specify `style()` just because there is something that you want to change, and in fact, most people seldom specify the `style()` option. You specify `style()` when another style exists that is exactly what you desire or when another style would allow you to specify fewer changes to obtain what you want.

`extend` and `noextend` specify whether the line should extend through the plot region’s margin and touch the axis; see [G-3] `region_options`. Usually `noextend` is the default, and `extend` is the option, but that is determined by the overall `style()` and, of course, the scheme; see [G-4] `Schemes intro`.

`lstyle(linestyle)`, `lpattern(linepatternstyle)`, `lwidth(linewidthstyle)`, `lalign(linealignmentstyle)`, and `lcolor(colorstyle)` specify the look of the line; see [G-2] `graph twoway line`. `lstyle()` can be of particular use:

To create a line with the same look as the lines used to draw axes, specify `lstyle(foreground)`.

To create a line with the same look as the lines used to draw grid lines, specify `lstyle(grid)`.

Remarks and examples

`yline()` and `xline()` add lines where specified. If, however, your interest is in obtaining grid lines, see the `grid` option in [G-3] `axis_label_options`.

Remarks are presented under the following headings:

Typical use

Interpretation of repeated options

Typical use

`yline()` or `xline()` are typically used to add reference values:

```
. scatter yvar xvar, yline(10)
. scatter yvar year, xline(1944 1989)
```

To give the line in the first example the same look as used to draw an axis, we could specify

```
. scatter yvar xvar, yline(10, lstyle(foreground))
```

If we wanted to give the lines used in the second example the same look as used to draw grids, we could specify

```
. scatter yvar year, xline(1944 1989, lstyle(grid))
```

Interpretation of repeated options

Options `yline()` and `xline()` may be repeated, and each is executed separately. Thus different styles can be used for different lines on the same graph:

```
. scatter yvar year, xline(1944) xline(1989, lwidth(3))
```

Reference

Also see

[G-4] *addedlinestyle* — Choices for overall look of added lines

[G-4] *colorstyle* — Choices for color

[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] *linestyle* — Choices for overall look of lines

[G-4] *linewidthstyle* — Choices for thickness of lines