# Title



***cat_axis_label_options* — Options for specifying look of categorical axis labels**

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## Description

The *cat_axis_label_options* determine the look of the labels that appear on a categorical $x$ axis produced by `graph bar`, `graph hbar`, `graph dot`, and `graph box`; see [G-2] **graph bar**, [G-2] **graph dot**, and [G-2] **graph box**. These options are specified inside `label()` of `over()`:

```
. graph ..., over(varname, ... label(cat_axis_label_options) ...)
```

The most useful *cat_axis_label_options* are `angle()`, `alternate`, `labcolor()`, and `labsize()`.

## Quick start

Increase size of categorical axis labels by 20% for plots drawn over categorical variable `catvar`

```
graph_command ..., over(catvar, label(labsize(*1.2)))
```

Place the categorical axis labels at a 45-degree angle

```
graph_command ..., over(catvar, label(angle(45)))
```

Alternate the placement of labels to increase space between adjacent labels

```
graph_command ..., over(catvar, label(alternate))
```

Make the categorical axis labels green

```
graph_command ..., over(catvar, label(labcolor(green)))
```

Suppress the display of labels on the categorical axis

```
graph_command ..., over(catvar, label(nolabels))
```

Note: Categorical axis-label options can be used only with `graph bar`, `graph box`, `graph dot`, or `graph hbar`.

# Syntax

| *cat_axis_label_options* | Description |
|---|---|
| `nolabels` | suppress axis labels |
| `ticks` | display axis ticks |
| `angle(`*anglestyle*`)` | angle of axis labels |
| `alternate` | offset adjacent labels |
| `tstyle(`*tickstyle*`)` | labels and ticks: overall style |
| `labgap(`*size*`)` | labels: margin between tick and label |
| `labstyle(`*textstyle*`)` | labels: overall style |
| `labsize(`*textsizestyle*`)` | labels: size of text |
| `labcolor(`*colorstyle*`)` | labels: color and opacity of text |
| `tlength(`*size*`)` | ticks: length |
| `tposition(outside \| crossing \| inside)` | ticks: position/direction |
| `tlstyle(`*linestyle*`)` | ticks: linestyle of |
| `tlwidth(`*linewidthstyle*`)` | ticks: thickness of line |
| `tlcolor(`*colorstyle*`)` | ticks: color and opacity of line |

# Options

`nolabels` suppresses display of category labels on the axis. For `graph bar` and `graph hbar`, the `nolabels` option is useful when combined with the `blabel()` option used to place the labels on the bars themselves; see [G-3] ***blabel_option***.

`ticks` specifies that ticks appear on the categorical $x$ axis. By default, ticks are not presented on categorical axes, and it is unlikely that you would want them to be.

`angle(`*anglestyle*`)` specifies the angle at which the labels on the axis appear. The default is `angle(0)`, meaning horizontal. With vertical bar charts and other vertically oriented charts, it is sometimes useful to specify `angle(90)` (vertical text reading bottom to top), `angle(-90)` (vertical text reading top to bottom), or `angle(-45)` (angled text reading top left to bottom right); see [G-4] ***anglestyle***.

Unix users: if you specify `angle(-45)`, results will appear on your screen as if you specified `angle(-90)`; results will appear correctly when you print.

`alternate` causes adjacent labels to be offset from one another and is useful when there are many labels or when labels are long. For instance, rather than obtaining an axis labeled,

```
──────────────────────────────────────────
 ┴──────────┴──────────┴──────────┴──────┴
 ResearchDevelopmentMarketing   Sales
```

with `alternate`, you obtain

```
──────────────────────────────────────────
 ┴──────────┴──────────┴──────────┴──────┴
 Research           Marketing
         Development            Sales
```

`tstyle(`*tickstyle*`)` specifies the overall look of labels and ticks; see [G-4] ***tickstyle***. Here the emphasis is on labels because ticks are usually suppressed on a categorical axis. The options documented below will allow you to change each attribute of the label and tick, but the *tickstyle* specifies the starting point.

You need not specify `tstyle()` just because there is something you want to change about the look of labels and ticks. You specify `tstyle()` 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.

`labgap(`*size*`)`, `labstyle(`*textstyle*`)`, `labsize(`*textsizestyle*`)`, and `labcolor(`*colorstyle*`)` specify details about how the labels are presented. Of particular interest are `labsize(`*textsizestyle*`)`, which specifies the size of the labels, and `labcolor(`*colorstyle*`)`, which specifies the color of the labels; see [G-4] ***textsizestyle*** and [G-4] ***colorstyle*** for a list of text sizes and color choices. Also see [G-4] ***size*** and [G-4] ***textstyle***.

`tlength(`*size*`)` specifies the overall length of the ticks; see [G-4] ***size***.

`tposition(outside|crossing|inside)` specifies whether the ticks are to extend `outside` (from the axis out, the usual default), `crossing` (crossing the axis line, extending in and out), or `inside` (from the axis into the plot region).

`tlstyle(`*linestyle*`)`, `tlwidth(`*linewidthstyle*`)`, and `tlcolor(`*colorstyle*`)` specify other details about the look of the ticks. Ticks are just lines. See [G-4] **Concept: lines** for more information.

## Remarks and examples

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You draw a bar, dot, or box plot of `empcost` by `division`:

```
. graph ... empcost, over(division)
```

Seeing the result, you wish to make the text labeling the divisions 20% larger. You type:

```
. graph ... empcost, over(division, label(labsize(*1.2)))
```

## Also see

[G-2] **graph bar** — Bar charts

[G-2] **graph box** — Box plots

[G-2] **graph dot** — Dot charts (summary statistics)

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