# Title

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> *symbolstyle* — Choices for the shape of markers

Description    Syntax    Remarks and examples    Also see

## Description

Markers are the ink used to mark where points are on a plot; see [G-3] *marker_options*. *symbolstyle* specifies the shape of the marker.

You specify the *symbolstyle* inside the msymbol() option allowed with many of the graph commands:

    . graph twoway ..., msymbol(*symbolstyle*) ...

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

    . scatter ..., msymbol(*symbolstylelist*) ...

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

## Syntax

| *symbolstyle* | Synonym (if any) | Description |
|---|---|---|
| circle | O | solid |
| diamond | D | solid |
| triangle | T | solid |
| square | S | solid |
| plus | + | |
| X | X | |
| arrowf | A | filled arrow head |
| arrow | a | |
| pipe | \| | |
| V | V | |
| smcircle | o | solid |
| smdiamond | d | solid |
| smsquare | s | solid |
| smtriangle | t | solid |
| smplus | | |
| smx | x | |
| smv | v | |
| circle_hollow | Oh | hollow |
| diamond_hollow | Dh | hollow |
| triangle_hollow | Th | hollow |
| square_hollow | Sh | hollow |

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| | | |
|---|---|---|
| `smcircle_hollow` | oh | hollow |
| `smdiamond_hollow` | dh | hollow |
| `smtriangle_hollow` | th | hollow |
| `smsquare_hollow` | sh | hollow |
| `point` | p | a small dot |
| `none` | i | a symbol that is invisible |

For a symbol palette displaying each of the above symbols, type

> palette symbolpalette [ , <u>sch</u>eme(*schemename*) ]

Other *symbolstyles* may be available; type

> . graph query symbolstyle

to obtain the complete list of *symbolstyles* installed on your computer.

# Remarks and examples

Remarks are presented under the following headings:

> *Typical use*
> *Filled and hollow symbols*
> *Size of symbols*

## Typical use

msymbol(*symbolstyle*) is one of the more commonly specified options. For instance, you may not be satisfied with the default rendition of

```
. scatter mpg weight if foreign ||
  scatter mpg weight if !foreign
```

and prefer

```
. scatter mpg weight if foreign, msymbol(oh) ||
  scatter mpg weight if !foreign, msymbol(x)
```

When you are graphing multiple $y$ variables in the same plot, you can specify a list of *symbolstyles* inside the msymbol() option:

```
. scatter mpg1 mpg2 weight, msymbol(oh x)
```

The result is the same as typing

```
. scatter mpg1 weight, msymbol(oh) ||
  scatter mpg2 weight, msymbol(x)
```

Also, in the above, we specified the symbol-style synonyms. Whether you type

```
. scatter mpg1 weight, msymbol(oh) ||
  scatter mpg2 weight, msymbol(x)
```

or

```
. scatter mpg1 weight, msymbol(smcircle_hollow) ||
  scatter mpg2 weight, msymbol(smx)
```

makes no difference.

## Filled and hollow symbols

The *symbolstyle* specifies the *shape* of the symbol, and in that sense, one of the styles circle and hcircle—and diamond and hdiamond, etc.—is unnecessary in that each is a different rendition of the same shape. The option mfcolor(*colorstyle*) (see [G-3] *marker_options*) specifies how the inside of the symbol is to be filled. hcircle(), hdiamond, etc., are included for convenience and are equivalent to specifying

msymbol(Oh): msymbol(O) mfcolor(none)

msymbol(dh): msymbol(d) mfcolor(none)

etc.

Using mfcolor() to fill the inside of a symbol with different colors sometimes creates what are effectively new symbols. For instance, if you take msymbol(O) and fill its interior with a lighter shade of the same color used to outline the shape, you obtain a pleasing result. For instance, you might try
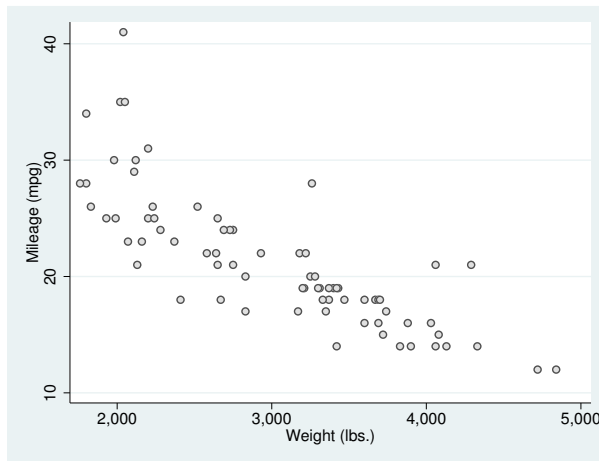
msymbol(O) mlcolor(yellow) mfcolor(.5*yellow)

or

msymbol(O) mlcolor(gs5) mfcolor(gs12)

as in

. scatter mpg weight, msymbol(O) mlcolor(gs5) mfcolor(gs14)



## Size of symbols

Just as msymbol(O) and msymbol(Oh) differ only in mfcolor(), msymbol(O) and msymbol(o)—symbols circle and smcircle—differ only in msize(). In particular,

msymbol(O): msymbol(O) msize(medium)

msymbol(o): msymbol(O) msize(small)

and the same is true for all the other large and small symbol pairs.

msize() is interpreted as being relative to the size of the graph region (see [G-3] *region_options*), so the same symbol size will in fact be a little different in

```
. scatter mpg weight
```

and

```
. scatter mpg weight, by(foreign total)
```

## Also see

[G-3] *marker_options* — Options for specifying markers

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

[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

[G-4] *markersizestyle* — Choices for the size of markers

[G-4] *markerstyle* — Choices for overall look of markers