Symbols for the shape of markers

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

<table>
<thead>
<tr>
<th>symbolstyle</th>
<th>Synonym (if any)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>circle</td>
<td>O</td>
<td>solid</td>
</tr>
<tr>
<td>diamond</td>
<td>D</td>
<td>solid</td>
</tr>
<tr>
<td>triangle</td>
<td>T</td>
<td>solid</td>
</tr>
<tr>
<td>square</td>
<td>S</td>
<td>solid</td>
</tr>
<tr>
<td>plus</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>arrowf</td>
<td>A</td>
<td>filled arrow head</td>
</tr>
<tr>
<td>arrow</td>
<td>a</td>
<td></td>
</tr>
<tr>
<td>pipe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>smcircle</td>
<td>o</td>
<td>solid</td>
</tr>
<tr>
<td>smdiamond</td>
<td>d</td>
<td>solid</td>
</tr>
<tr>
<td>smsquare</td>
<td>s</td>
<td>solid</td>
</tr>
<tr>
<td>smtriangle</td>
<td>t</td>
<td>solid</td>
</tr>
<tr>
<td>smplus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>smx</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>smv</td>
<td>v</td>
<td></td>
</tr>
<tr>
<td>circle_hollow</td>
<td>Oh</td>
<td>hollow</td>
</tr>
<tr>
<td>diamond_hollow</td>
<td>Dh</td>
<td>hollow</td>
</tr>
<tr>
<td>triangle_hollow</td>
<td>Th</td>
<td>hollow</td>
</tr>
<tr>
<td>square_hollow</td>
<td>Sh</td>
<td>hollow</td>
</tr>
</tbody>
</table>

1
symbolstyle — Choices for the shape of markers

- Choices for the shape of markers

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>smcircle_hollow</td>
<td>oh</td>
<td>hollow</td>
</tr>
<tr>
<td>smdiamond_hollow</td>
<td>dh</td>
<td>hollow</td>
</tr>
<tr>
<td>smtriangle_hollow</td>
<td>th</td>
<td>hollow</td>
</tr>
<tr>
<td>smsquare_hollow</td>
<td>sh</td>
<td>hollow</td>
</tr>
<tr>
<td>point</td>
<td>p</td>
<td>a small dot</td>
</tr>
<tr>
<td>none</td>
<td>i</td>
<td>a symbol that is invisible</td>
</tr>
</tbody>
</table>

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

```stata
palette symbolpalette [, scheme(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 `mcolor(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) mcolor(none)
msymbol(dh): msymbol(d) mcolor(none)
```

etc.

Using `mcolor()` 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) mcolor(.5*yellow)
```

or

```
msymbol(O) mlcolor(gs5) mcolor(gs12)
```

as in

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

Size of symbols

Just as `msymbol(O)` and `msymbol(Oh)` differ only in `mcolor()`, `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
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. 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