symbolstyle — Choices for the shape of markers

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:

```stata
.graph twoway ..., msymbol(symbolstyle) ...
```

Sometimes you will see that a symbolstylelist is allowed:

```stata
.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>
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<table>
<thead>
<tr>
<th>Symbolstyle</th>
<th>Code</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

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

\begin{verbatim}
msymbol(Oh): msymbol(0) mfcolor(none)
msymbol(dh): msymbol(d) mfcolor(none)

\end{verbatim}

etc.

Using \texttt{mfcolor()} to fill the inside of a symbol with different colors sometimes creates what are effectively new symbols. For instance, if you take \texttt{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

\begin{verbatim}
msymbol(O) mlcolor(yellow) mfcolor(.5*yellow)

\end{verbatim}

or

\begin{verbatim}
msymbol(O) mlcolor(gs5) mfcolor(gs12)

\end{verbatim}

as in

\begin{verbatim}
.scatter mpg weight, msymbol(O) mlcolor(gs5) mfcolor(gs14)

\end{verbatim}

Size of symbols

Just as \texttt{msymbol(0)} and \texttt{msymbol(Oh)} differ only in \texttt{mfcolor()}, \texttt{msymbol(0)} and \texttt{msymbol(o)}—symbols \texttt{circle} and \texttt{smcircle}—differ only in \texttt{msize()}. In particular,

\begin{verbatim}
msymbol(0): msymbol(0) msize(medium)
msymbol(o): msymbol(0) msize(small)

\end{verbatim}

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

\texttt{msize()} is interpreted as being relative to the size of the graph region (see \cite{G-3} \texttt{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