Using Style Elements

You can use style elements to control attributes of plot features such as markers and lines as follows:

```
proc sgplot data=sashelp.class noautolegend;
  pbspline y=weight x=height /
    markerattrs=GraphData2
  lineattrs=GraphFit2;
run;
```

You can set most attributes using style elements and override certain attributes with options as follows:

```
proc sgplot data=sashelp.class noautolegend;
  pbspline y=weight x=height /
    markerattrs=GraphData2(symbol=circlefilled)
    lineattrs=GraphData8(thickness=1px);
run;
```

In the GTL, you can specify both style elements and specific attributes as follows:

```
proc template;
  define statgraph pbs;
  begingraph;
    scatterplot y=weight x=height /
      markerattrs=GraphData2(symbol=circlefilled)
      lineattrs=GraphFit2(thickness=1px);
  endgraph;
run;
```

The marker style comes from GraphData5 but with the GraphData2 contrast color. The line style comes from GraphData8 but with the GraphFit2 color.

### Style Template Creation Example

```
proc template;
  define Style styles.MyStyle;
  parent=styles.default;
  class GraphDataDefault /
    Color = cxCAD5E5
    ContrastColor = cx003399
    LineStyle = 1
    LineThickness = 1px
    MarkerSymbol = "StarFilled"
    MarkerSize = 5px
    StartColor = cxAFB5A6
    NeutralColor = cxFFFFFF
    EndColor = cx667FA2;
  style colors from colors /
    'docbg' = cxFAFBFE;
  run;
ods html style=mystyle;
```

For complete information, see the SAS® 9.2 documentation at [http://support.sas.com/publishing/authors/kuhfeld.html](http://support.sas.com/publishing/authors/kuhfeld.html)

**ODS Graphics in SAS 9.2**

Using Style Elements

- You can use style elements to control attributes of plot features such as markers and lines.
- Customize most attributes using style elements and override certain attributes with options.
- In the GTL, specify both style elements and specific attributes.

**Graph Style Tip Sheet**

- This tip sheet presents an overview of ODS styles and style elements and their use in ODS Graphics in SAS 9.2.
- ODS Graphics is an extension of ODS (Output Delivery System). ODS styles control colors and general appearance.
- SAS provides several styles recommended for use with statistical graphics.
- The default style used depends on ODS settings.

**For more information,** see:
- [support.sas.com/publishing/authors/kuhfeld.html](http://support.sas.com/publishing/authors/kuhfeld.html)
ODS Styles

Using PROC TEMPLATE to display style definitions:

```sas
proc template;
list styles;
  * list all styles;
source styles.statistical; *display STATISTICAL;
source styles.default; *display DEFAULT style; run;
```

Many styles (including STATISTICAL, LISTING, ANALYSIS, and JOURNAL) inherit from the DEFAULT style. You need display the style and all of its parents to see the complete style definition.

Line Styles, Marker Names, Colors

**LineStyle** name (used in GTL and style) and number (used in style definitions): Dash 20, DashDashDot 14, DashDotDot 15, Dot 34, LongDash 5, LongDashShortDash 26, MediumDash 4, MediumDashDotDot 42, MediumDashShortDash 8, ShortDash 2, ShortDashDot 41, Solid 1, ThinDot 35.


**Colors**: Color applies to filled areas, and contrast color applies to markers and lines. Colors can be specified in values of the form CXrgrbg, where the last six characters specify RGB (red, green, blue). Common colors are CXFF0000 (red), CXFF00FF (yellow), CXFFFF00 (green), CX00FF00 (blue), CX0000FF (cyan), CXFF00FF (magenta), CX00FFFF (white), and so on. Common color names such as red, green, and blue, can also be used.

Graph Style Elements

You refer to ODS style elements in graph templates with **style-element** or **style-element-attribute** (for example, GraphDataDefault.ContrastColor). Common graph style elements include:

- **Graph** graph size, outer border appearance
- **GraphConfidence** primary fit confidence interval
- **GraphData1** first grouped data item attributes
- **GraphData12** twelfth grouped data item attributes
- **GraphDataDefault** not grouped data item attributes
- **GraphFit** primary fit function
- **GraphFit2** secondary fit function
- **GraphGridLines** horizontal and vertical grid lines
- **GraphOutlier** outlier data attributes
- **GraphPredictionLimits** fills for prediction limits
- **GraphReference** reference lines and drop lines
- **GraphDataText** attributes of point and line labels
- **GraphValueText** attributes of axis tick values
- **GraphLabelText** attrs of axis labels and legend title
- **GraphFootnoteText** footnotes
- **GraphTitleText** titles

**GraphWalls** vertical walls bounded by axes

Common attributes and sample values include:

- **BackgroundColor** = colors("dochg")
- **Color** = GraphColors("gdata")
- **ContrastColor** = GraphColors("gdata")
- **Displayopts** = "fill outline"
- **EndColor** = GraphColors("gconramp3end")
- **Font** = Fonts("TitleFont")
- **FrameBorder** = on
- **LineStyle** = 1
- **LineThickness** = 3px
- **MarkerSize** = 7px
- **MarkerSymbol** = "circle"
- **NeutralColor** = GraphColors("gconramp3neutral")
- **Padding** = 7
- **StartColor** = GraphColors("gconramp3start")

Many attributes are defined indirectly by default. Not all attributes can be used with all elements.

DEFAULT Style Graph Fonts

The graph fonts for the DEFAULT style are:

```sas
class GraphFonts
  "Fonts used in graph styles" /
  'GraphDataFont' = ("<sans-serif>",<MTsans-serif>,7pt)
  'GraphTitleFont' = ("<sans-serif>",<MTsans-serif>,10pt)
end;
```

You can use PROC TEMPLATE with the SOURCE statement to display other styles and see other font definitions. You can create a new style with modified font definitions as follows:

```sas
proc template;
define style myfonts;
parent = styles.default;
styled GraphFonts from GraphFonts /
  'GraphDataFont' = ("arial",7pt)
  'GraphTitleFont' = ("times new roman",10pt)
end;
```

The style MYSTYLE differs from the DEFAULT style only in the three font definitions. Specify **STYLE=MYSTYLE** on an ODS destination statement to use your new style.