Data Class;

Input ClassID $ Year Age Height Weights;

Datalines;

A1234 2013 8 85 34

A2323 2013 9 81 36

B3423 2013 8 80 31

B5324 2013 9 70 35

C2342 2013 9 80 31

D3242 2013 9 85 30

A1234 2019 14 105 64

A2323 2019 15 101 66

B3423 2019 14 100 61

B5324 2019 15 90 55

C2342 2019 15 112 70

D3242 2019 14 112 70

;

\*Histogram;

Proc SGPLOT Data = Class;

Histogram Height;

Title 'Height of children in class across years';

Run;

\*Histogram Removing Outlier;

Proc SGPLOT Data = Class;

Histogram Height;

Where ClassID ne 'B5324';

Title 'Height of children after outlier removal';

Run;

\*Histogram multiple panels;

Proc SGPANEL Data=Class;

Panelby Year / Rows=2 Layout=Rowlattice;

Histogram Height;

Run;

\*Histogram;

Proc SGPLOT Data = Class;

Histogram Height / Binstart=70 Binwidth=.5 Scale=count;

Title 'Height of Class in Customized Bins';

Run;

\*Histogram - Combining Density Curve;

Proc SGPLOT Data = Class;

Histogram Height;

Density Height;

Title 'Height and Density';

Run;

\*Normal is the default option. Parameters are estimated from the data;

\*Histogram - Combining Density Curve;

Proc SGPLOT Data = Class;

Histogram Height;

Density Height;

Density Height / Type= Kernel;

Keylegend / Location = Inside Position = TopRight Across = 1 Title = 'Density Curves';

Title 'Height and Density with Multiple Curves';

Run;

\*Show Legend Option;

Proc SGPLOT Data = Class;

Histogram Height;

Density Height;

Density Height / Type = Kernel;

Keylegend / Location = Outside Position = TopRight Down = 1 Title = 'Density Curves';

Title 'Height';

Run;

\*Overlapping histogram;

proc sgplot data=class;

histogram Height / group=Year transparency=0.5;

density Height / group=Year;

run;

\*Line Plot;

Proc SGPLOT Data=Class;

Vline Age;

Title 'Basic Form of Line Chart Using SGPLOT';

Run;

DATA COST\_LIVING;

INPUT City $12. Index Prev\_yr\_index Housing Food Travel Utility Education Leisure Other;

DATALINES;

Adelaide 85 83 35 10 10 9 14 10 12

Beijing 90 92 40 10 15 10 18 5 2

Copenhagen 65 64 25 15 10 10 12 12 16

Doha 56 50 30 15 5 10 10 20 10

Dubai 75 76 30 16 14 10 20 8 2

Dublin 45 43 30 10 8 12 10 15 15

Hong Kong 83 88 45 5 10 15 15 9 1

Johannesburg 35 40 45 5 5 15 15 10 5

Manila 41 42 25 10 15 15 20 10 5

Moscow 48 53 40 20 5 5 10 10 10

Mumbai 83 85 40 10 15 15 10 9 1

Munich 65 64 35 10 10 10 10 10 15

New York 89 85 40 10 15 10 20 5 5

Oslo 60 58 25 15 5 5 15 20 15

Paris 70 70 30 10 5 10 10 20 15

Seoul 73 75 30 10 10 10 15 15 10

Singapore 75 74 35 15 10 10 20 5 5

Tokyo 87 85 40 15 10 5 15 14 1

Zurich 63 61 30 10 10 15 10 10 15

;

\*Line Plot;

Proc SGPLOT Data=Cost\_living;

Series X=City Y=Index / Legendlabel="Current Yr Index";

Series X=City Y=Prev\_Yr\_Index / LEGENDLABEL="Previous Yr Index";

YAxis Label="Current vs Previous Index";

Title 'Multiple Series in Line Chart';

Run;

\*Line Plot;

Proc SGPLOT Data=Class;

Vline Age / Response=Height Stat=Mean Markers;

Vline Age / Response=Weights Stat=Mean Markers Y2AXIS;

Title 'Age with Response Variables';

Run;

\*Line Plot;

Proc Sort Data = Class Out=Delta;

By ClassID Year Height;

Run;

Proc SGPLOT Data=Delta;

Series X=Year Y=Height / Group=ClassID;

Title 'Change in Height';

Run;

\*Vertical chart;

Proc SGPLOT Data=Class;

VBar Height;

Title 'Basic Form of Vertical Chart';

Run;

\*Vertical chart;

Proc SGPLOT Data=Class;

VBar Height / Dataskin= Stat=PCT;

Title 'Vertical Gloss Chart with PCT';

Run;

\*Vertical chart;

Proc SGPLOT Data=Class;

VBar Height / Dataskin=Sheen Barwidth=0.5;

Title 'Vertical Sheen Chart with Spread Out Bars';

Run;

\*Vertical chart;

Proc SGPLOT Data=Class;

VBar Height / Datalabel Datalabelattrs=(family='Albany AMT' size=10pt color=red);

Title 'Chart with Datalabel';

Run;

\*Vertical chart;

Proc SGPLOT Data=Class;

VBar Height / Datalabel Datalabelattrs=(family='Albany AMT' size=10pt color=red) Fillattrs=(Color=Blue) Filltype=Gradient;

Title 'Chart with Color and Gradient';

Run;

\*Vertical bar chart;

Proc Means Data=Class Alpha=.05 clm Mean Std NoPrint;

Class Year;

Var Height;

Output Out=ClassMean UCLM=UCLM LCLM=LCLM Mean=Mean;

Run;

Proc SGPLOT Data=ClassMean;

Vbarparm Category=Year Response=Mean / Datalabel;

Title 'Charting Statistical Output using SGPLOT';

Run;

\*Vertical chart with means alternate method;

Proc SGPLOT Data=Class;

Vbar Year / Response = Height Stat=Mean Limits=Upper Datalabel;

Title 'Alternative Method for Charting Statistical Output';

Run;

\*Vertical chart with multiple statistical measures;

Proc SGPLOT Data=Dealership;

Vbar Day / Response = Units Stat=Mean Fillattrs=(Color=Blue) Datalabel Datalabelpos=Data;

Vbar Day / Response = Units Stat=Median Datalabel Datalabelpos=Bottom Fillattrs=(Color=Red) Barwidth=0.5 Transparency=0.7;

YAxis Display=None;

Title 'Overlaying Vertical Bars';

Run;

\*Vertical group chart;

Proc SGPLOT Data=Class;

Vbar Age / Group= Height Stat=Percent Datalabel Datalabelpos=Data;

Title 'Vertical Grouped Bar Chart';

Run;

\*Horizontal bar;

Proc SGPLOT Data=Class;

Hbar Height;

Title 'Horizontal Bar Chart';

Run;

\*Scatter basic form;

Title "Index and Other Relationship";

Proc SGPLOT Data=Cost\_Living;

Scatter X=Index Y=Other;

Run;

\*Scatter group statement;

Title "Index and Prev Year Index's relationship with Housing";

Proc SGPLOT Data=Cost\_Living;

Scatter X=Index Y=Prev\_Yr\_Index / Group=Housing Markerattrs=(Symbol=Circlefilled Size=3.5mm);

Run;

\*Paneled scatter plot;

Title 'Scatter via SGPANEL';

Proc SGPANEL Data=Class;

Panelby Year;

Scatter X=Height Y=Weights;

Run;

\*Scatter plot error bands;

Proc Sql;

Create Table Day As

Select Day, Avg(Avg\_Price) as Avg\_Price

From Dealership

Group By 1;

Quit;

Proc Summary Data=Day;

Var Avg\_Price;

Output Out=Day\_Temp Stderr=Avg\_Price\_Stderr;

Run;

Proc Sql NoPrint;

Select Avg\_Price\_Stderr Into: Avg\_Price\_Stderr

From Day\_Temp;

Quit;

Proc Sql;

Create Table Day\_Stderr As

Select \*, Avg\_Price-&Avg\_Price\_Stderr as Lower, Avg\_Price+&Avg\_Price\_Stderr as Upper

From Day;

Quit;

Title 'Scatter Std Error';

Proc SGPLOT Data=Day\_Stderr;

Scatter X=Day Y=Avg\_Price / YErrorLower=Lower YErrorUpper=Upper;

Run;

\*Box plot basics;

Title 'Basic Form of Box Plot';

Proc SGPLOT Data=Class;

VBox Height / Category=Year;

Run;

\*Displaying statistics;

Proc Sort Data=Class;

By Age;

Run;

Title;

Title 'Box Plot Statistics Display';

Title;

Proc Boxplot Data=Class;

Plot Height\*Age;

Inset Min Mean Max Stddev / Header = 'Height Statistics' POS=RM;

Run;