Q1: How do you change the bin width of a histogram?

Answer: To customize the histogram, we can do one of two things.

Option 1: In ODS Graphics Designer

1. In the Assign Data window, choose 'Advanced Options'
2. Check the 'Bin Width' box and in the text box enter the width you prefer

Option 2: Via GTL Code

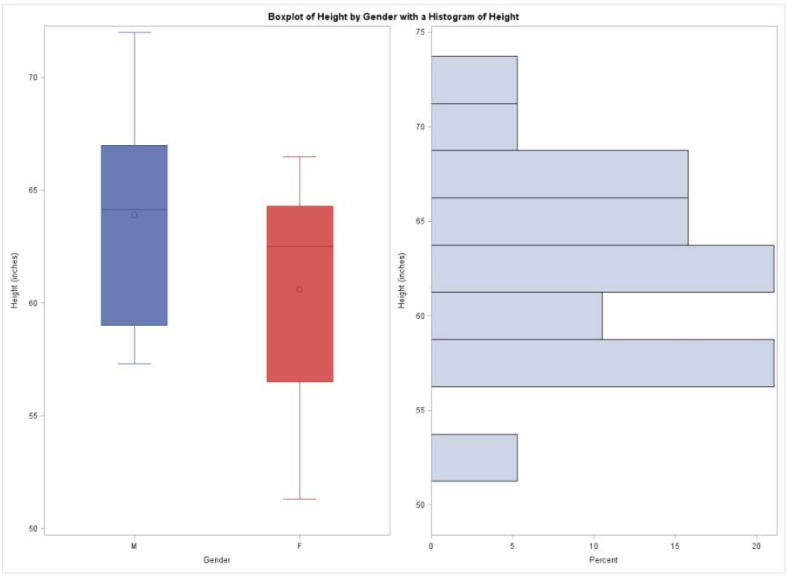
1. After the plot has been generated (as on Slide 14), select View-Code
2. Copy the code into a SAS Editor window
3. In the proc template step, you will see a line starting with *histogram*
4. At the end of this line, but before the semi-colon add binwidth = 2.5
5. Click the running man to produce the updated graphic
6. Note: You won't be able to update the graphic produced in SAS by point and click, as you can in SAS ODS Graphics Designer.

Additional options for a histogram are described here

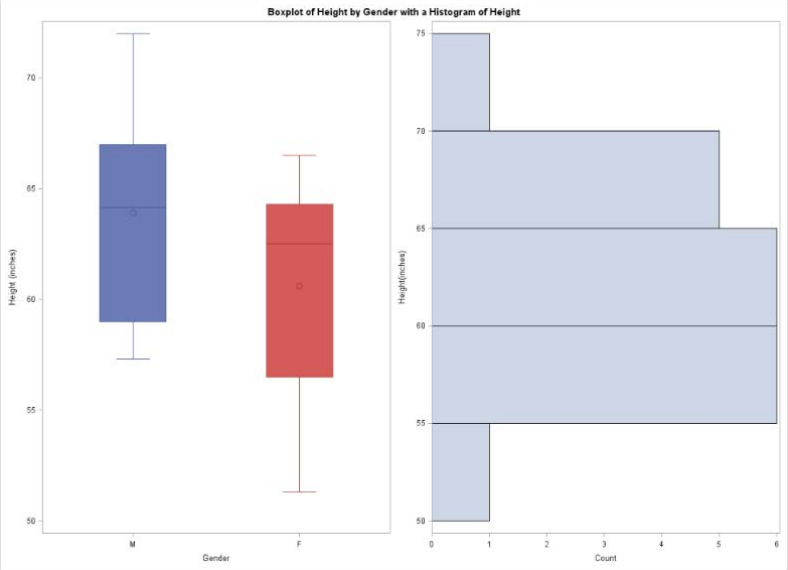
Code:

```
proc template;
define statgraph sgdesign;
dynamic _SEX _HT _SEX2 _HT2;
begingraph / designwidth=1223 designheight=888;
   entrytitle halign=center 'Boxplot of Height by Gender with a Histogram of Height';
   layout lattice / rowdatarange=data columndatarange=data columns=2 rowgutter=10
   columngutter=10;
      layout overlay/xaxisopts=(label=('Gender')) yaxisopts=(label=('Height (inches)'));
         boxplot x=_SEX y=_HT / group=_SEX2 name='box' boxwidth=0.4 clusterwidth=1.0;
      endlayout;
      layout overlay / yaxisopts=(label=('Height(inches)'));
         histogram _HT2/name='histogram_h' binaxis=false orient=horizontal binwidth=2.5;
      endlayout;
   endlayout;
endgraph;
end;
run;

proc sgrender data=SASHELP.CLASS
template=sgdesign;
dynamic _SEX="SEX" _HT="HEIGHT"
        _SEX2="SEX" _HT2="HEIGHT";
run;
```



Q2: In a histogram, can you display the frequency instead of the percentage?



Answer: To do this, we use the GTL code.

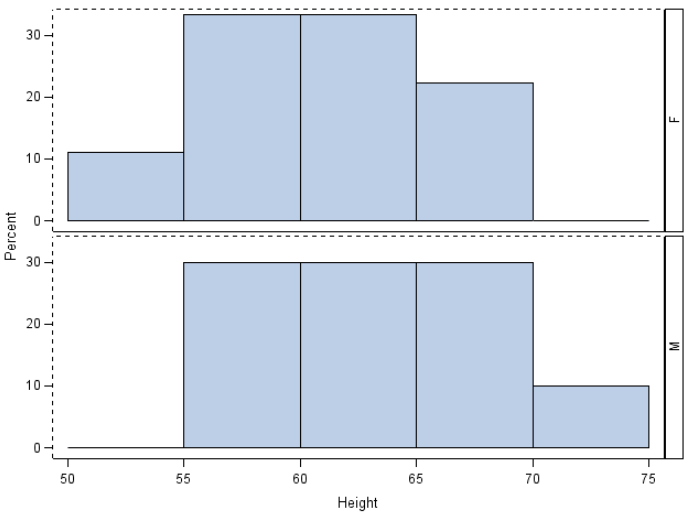
1. After the plot has been generated (as on Slide 14), select View-Code
2. Copy code into a SAS Editor window
3. In the proc template step, you will see a line starting with *histogram*
4. At the end of this line, but before the semi-colon add scale = count
5. Click the running man to produce the updated graphic

Code:

```
proc template;
define statgraph sgdesign;
dynamic _SEX _HT _SEX2 _HT2;
begingraph / designwidth=1223 designheight=888;
   entrytitle halign=center 'Boxplot of Height by Gender with a Histogram of Height';
   layout lattice / rowdatarange=data columndatarange=data columns=2 rowgutter=10
   columngutter=10;
      layout overlay/xaxisopts=(label=('Gender')) yaxisopts=(label=('Height (inches)'));
         boxplot x=_SEX y=_HT / group=_SEX2 name='box' boxwidth=0.4 clusterwidth=1.0;
      endlayout;
      layout overlay / yaxisopts=(label=('Height(inches)'));
         histogram _HT2/name='histogram_h' binaxis=false orient=horizontal scale=count;
      endlayout;
   endlayout;
endgraph;
end;
run;

proc sgrender data=SASHELP.CLASS template=sgdesign;
dynamic _SEX="SEX" _HT="HEIGHT"
        _SEX2="SEX" _HT2="HEIGHT";
run;
```

Q3: How can you create a histogram for each group separately?



Answer: This can be done in the ODS Graphics Designer by the following steps

1. In the Assign Data window, choose the panel variables tab
2. Select the radial button next to ‘Data Lattice’
3. In the Row tab, select the grouping variable you want to use, then OK