

# Web Publishing in SAS® Software

Prepared by



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This presentation is designed to demonstrate the different possibilities we use when we build web based applications for clients and teach them the web publishing techniques we use with SAS Software. Actual examples are available on our web site.

## Basic HTML Publishing

The most basic form is brute force HTML generation using the traditional data step. This tends to be the most flexible, but the most time consuming and requires complete knowledge of how HTML works. FILE and PUT statements are used extensively.

```
PROGRAM EDITOR - web1
Command ==>
00001 libname saved 'c:\sas';
00002 data _null_;
00003 set saved.demograf end=x;
00004 file 'c:\datanull.html';
00005 if _n_ = 1 then do;
00006 put '<h1>SAS Data Set Demograf</h1>';
00007 / '<h2>From the Saved Library</h2>';
00008 / '<ol>';
00009 end;
00010 put '<i>'; gender children cars salary dollar8;
00011 if x then put '';
00012 run;
00013 x 'c:\progra\intern\iexplore.exe c:\datanull.html';
00014
```

### SAS Data Set Demograf

from the Saved library

1. F 0 0 \$0
2. F 0 0 \$0
3. F 0 0 \$0
4. F 0 1 \$13,000
5. F 1 1 \$5,600
6. F 2 1 \$8,000

## Data Set Publishing with DS2HTM

SAS offers a macro that allows one to take a SAS data file and present it in an HTML form.

```
PROGRAM EDITOR - web2
Command ==>
00001 libname saved 'c:\sas';
00002 data work.demograf;
00003 set saved.demograf;
00004 format salary dollar10.;
00005 run;
00006
00007 title1 'Data Set Table';
00008
00009 %ds2htm(data =work.demograf,
00010 where =status ^= 'SEP',
00011 var =gender status children salary,
00012 htmlfile=c:\test1.html,
00013 runmode =B);
00014
00015 x 'c:\progra\intern\iexplore.exe c:\test1.html';
00016
```

### Data Set Table

GENDER	STATUS	CHILDREN	SALARY
F	S	0	\$0
F	S	0	\$0
F	S	0	\$0
F	S	0	\$13,000
F	M	1	\$5,600

## SAS Output Publishing with OUT2HTM

Any procedure's output can be captures and published with the OUT2HTM macro.

```
PROGRAM EDITOR - web3
Command ==>
00001 libname saved 'c:\sas';
00002 %out2htm(capture=on);
00003
00004 title1 'Proc Report Output';
00005 options nodate formchar='|----|----|----|';
00006 PROC REPORT DATA=SAVED.DEMOGRAF LS=96 PS=54 SPLIT=/' CENTER NOWINDOWS;
00007 COLUMN GENDER STATUS AGE SALARY CHILDREN CARS;
00008 DEFINE GENDER / GROUP FORMAT= SB. WIDTH=8 SPACING=2 LEFT "GENDER";
00009 DEFINE STATUS / GROUP FORMAT= SB. WIDTH=8 SPACING=2 LEFT "STATUS";
00010 DEFINE AGE / MEAN FORMAT= 3. WIDTH=8 SPACING=2 RIGHT "AGE";
00011 DEFINE SALARY / SUM FORMAT= BEST9. WIDTH=9 SPACING=2 RIGHT "SALARY";
00012 DEFINE CHILDREN / SUM FORMAT= BEST9. WIDTH=9 SPACING=2 RIGHT "CHILDREN";
00013 DEFINE CARS / SUM FORMAT= BEST9. WIDTH=9 SPACING=2 RIGHT "CARS";
00014 BREAK AFTER GENDER / DL SKIP SUMMARIZE ;
00015 RUN;
00016
00017 title1 'Proc Freq Output';
00018 proc freq data=saved.demograf;
00019 table status*gender;
00020 run;
00021
00022 title1 'Proc Tabulate Output';
00023 proc tabulate data=saved.demograf;
00024 class status gender;
00025 var salary;
00026 table status,gender*salary;
00027 run;
00028
00029 %out2htm(capture=off,
00030 runmode=B,
00031 htmlfile=c:\test1.html,
00032 ctext=blue,
00033 color=green);
00034 x 'c:\progra\intern\iexplore.exe c:\test1.html';
00035
```

### Proc Report Output

GENDER	STATUS	AGE	SALARY	CHILDREN	CARS
F	D	29	8000	2	1
	M	43	131800	31	20
	S	17	45000	0	2
	SEP	23	16000	1	1
	W	46	30000	3	1
F		35	230600	37	25
	D	35	20000	5	2
	M	37	118300	18	9
	S	17	17000	0	2
	SEP	55	12000	2	1
M		31	168100	25	14

Proc Freq Output

TABLE OF STATUS BY GENDER

STATUS	GENDER			Total
	F	M	S	
D	2.86	5.71	8.57	14.29
M	13	6	19	34.29
S	14.29	14.29	28.57	57.14
SEP	2.86	5.71	8.57	17.14
W	3000.00	18000.00	21000.00	24000.00

Proc Tabulate Output

STATUS	GENDER		SUM	SUM
	F	M		
	SALARY	SALARY		
D	8000.00	20000.00	28000.00	14.29
M	131600.00	118300.00	249900.00	34.29
S	43000.00	17800.00	60800.00	57.14
SEP	18000.00	12000.00	30000.00	17.14
W	30000.00	-	30000.00	17.14

**Tabulate Publishing with TAB2HTM**

A special macro has been designed to capture the output of a PROC TABULATE and create an HTML table. This is a better presentation for a PROC TABULATE than using OUT2HTM.

```

PROGRAM EDITOR - web4
Command ===>
00001 libname saved 'c:\sae';
00002 xtab2htm(capture=on);
00003
00004 title 'Proc Tabulate Output';
00005 options nodate;
00006
00007 proc tabulate data=saved.demogrf formchar='B2838485868788898a8b8c'x format=7.;
00008   class status gender;
00009   table status*gender;
00010 run;
00011
00012 xtab2htm(capture=off,
00013           runmode=b,
00014           htmlfiles='test1.html',
00015           ctext=blue,
00016           fcolor=green);
00017 x 'c:\progra\intern\explor.exe c:\test1.html';
00018
    
```

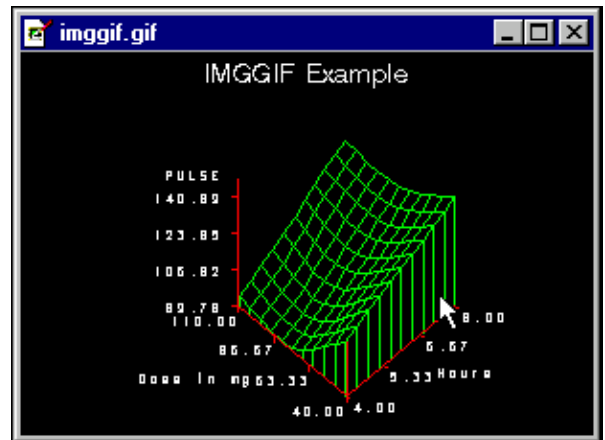
STATUS				
D	M	S	SEP	W
GENDER		GENDER		GENDER
F	M	F	M	F
N	N	N	N	N
1	2	13	6	5
5	5	1	1	1

The following drivers are designed to create graphical output used on the web with SAS/Graph software.

**Graphical Publishing with GIFs 6.09**

```

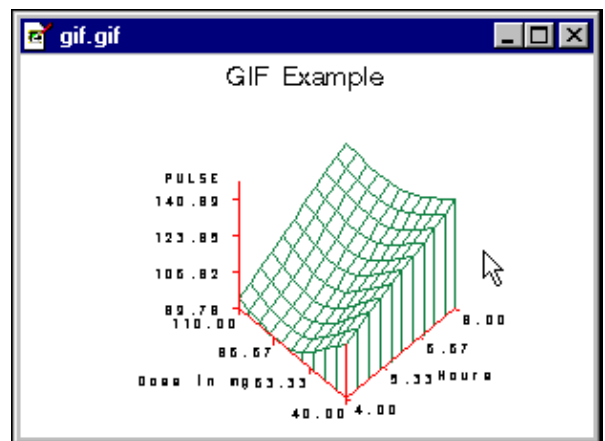
PROGRAM EDITOR - web5
Command ===>
00001 * The IMGGIF driver is available at Releases 6.09 and above of SAS software.;
00002 *
00003 %macro imgsize(w=1280,h=1024,dpi=95,rows=43,cols=83);
00004   %if &dpi<0 %then %put DPI must be greater than zero.;
00005   %else %do;
00006     %options heize=x*yevevalif(&w/&dpi)in veize=x*yevevalif(&h/&dpi)in
00007           hpos=&cols vpos=&rows;
00008   %end;
00009 %mend imgsize;
00010
00011 filename out 'c:\imggif.gif';
00012 %options resetall resetglobal;
00013 %options dev=imggif gfname=out gfname=replace;
00014 %imgsize(w=300,h=200,dpi=95,rows=30,cols=50);
00015
00016 proc g3grid data=saved.contour out=work.smooth;
00017   grid dose=regulary=pulse/smooth1 spline;
00018 run;
00019 title 'IMGGIF Example';
00020 proc g3d data=work.smooth;
00021   label dose='Dose in mg' regulary='Hours';
00022   plot dose=regulary=pulse / tilt=45 rotate=45 side;
00023 run;
00024
00025 x "C:\Progra\NCommon\NMicros\NPhotoEd\PHOTOED.EXE c:\imggif.gif";
    
```



**Graphical Publishing with GIFs 6.09e and 6.12**

```

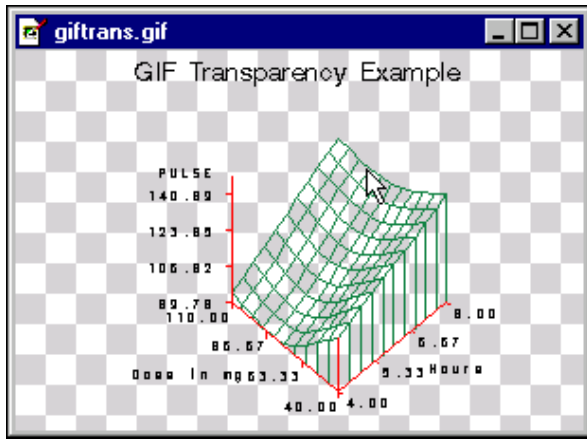
PROGRAM EDITOR - web6
Command ===>
00001 * The GIF device driver is available in Releases 6.09e and 6.12 of SAS software.;
00002 * Transparency is supported.;
00003 *
00004 %macro imgsize(w=1280,h=1024,dpi=95,rows=43,cols=83);
00005   %if &dpi<0 %then %put DPI must be greater than zero.;
00006   %else %do;
00007     %options heize=x*yevevalif(&w/&dpi)in veize=x*yevevalif(&h/&dpi)in
00008           hpos=&cols vpos=&rows;
00009   %end;
00010 %mend imgsize;
00011
00012 filename out 'c:\gif.gif';
00013 %options resetall resetglobal;
00014 %options dev=gif gfname=out gfname=replace;
00015 %imgsize(w=300,h=200,dpi=95,rows=30,cols=50);
00016
00017 proc g3grid data=saved.contour out=work.smooth;
00018   grid dose=regulary=pulse/smooth1 spline;
00019 run;
00020 title 'GIF Example';
00021 proc g3d data=work.smooth;
00022   label dose='Dose in mg' regulary='Hours';
00023   plot dose=regulary=pulse / tilt=45 rotate=45 side;
00024 run;
00025
00026 x "C:\Progra\NCommon\NMicros\NPhotoEd\PHOTOED.EXE c:\gif.gif";
00027
    
```



### Graphical Publishing with GIFs 6.09e and 6.12 Transparency

```

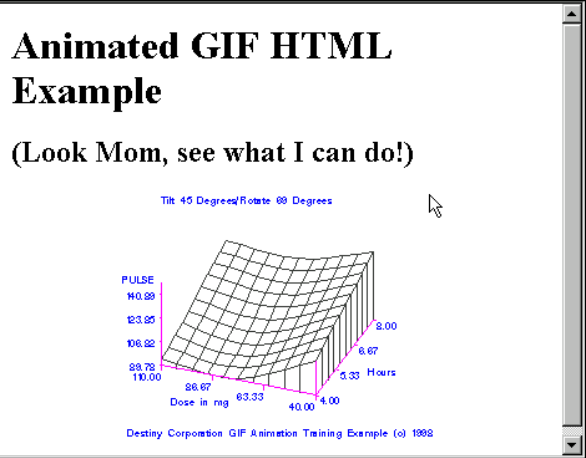
PROGRAM EDITOR - web7
Command ==>
00001 * The GIF device driver is available in Releases 6.09e and 6.12 of SAS software.;
00002 * Transparency Example.;
00003
00004 libname gdrive0 'c:\temp';
00005 proc gdrive0 c=gdrive0.devices nofs;
00006 copy gif from=sashelp.devices newname=giftrans;
00007 mod giftrans ucc='01';
00008 quit;
00009
00010 %macro imgsize(w=128,h=1024,dp=95,rows=43,cols=83);
00011 %if &dp<=0 %then %put DPI must be greater than zero.;
00012 %else %do;
00013 %options hsize=X*vevalf(&w/&dp)in vsize=X*vevalf(&h/&dp)in
00014 %pso=&cols vpsoc=&rows;
00015 %end;
00016 %mend imgsize;
00017
00018 filename out 'c:\giftrans.gif';
00019 %options reset=all reset=global;
00020 %options debug=giftrans getname=out getmode=replace;
00021 %imgsize w=300,h=250,dp=75,rows=30,cols=50;
00022
00023 proc g3d data=saved.contour out=work.smooth;
00024 grid dose=regulary=pulse/smooth=1 spline;
00025 run;
00026 title1 "GIF Transparency Example";
00027 proc g3d data=work.smooth;
00028 label dose="Dose in mg" regulary="Hours";
00029 plot dose=regulary=pulse / tllt=45 rotate=45 side;
00030 run;
00031
00032 x "c:\progra\1\common\1\micros\1\photoed\PHOTOED.EXE c:\giftrans.gif";
00033
  
```



### Animation with GIFs

```

PROGRAM EDITOR - web8
Command ==>
00001 ** GIF Animation G3D Example;
00002
00003 %options reset=all reset=global;
00004
00005 libname saved 'c:\sas';
00006
00007 proc g3d data=saved.contour out=work.smooth;
00008 grid dose=regulary=pulse/smooth=1 spline;
00009 run;
00010
00011 %macro animate;
00012 %let first=1;
00013 %do values=1 to 360 %by 1;
00014 %if &first = 1 %then %do;
00015 %options reset=all;
00016 filename out 'c:\animate.gif';
00017 %options debug=giftrans getname=out
00018 %options replace=ffix=swlts
00019 %let c2=goptions qval=1;
00020 %backwhite;
00021 %color=(BLUE MAGENTA DARKV BROWN);
00022 %footnote h=2 j=right "Destiny Corporation GIF Animation Training Example (c) 1998";
00023 %let first=0;
00024 %end;
00025 %else %do;
00026 %options getmode=append;
00027 %end;
00028 %if &value = 360 %then %do;
00029 %options getlogs='38';
00030 %end;
00031 title1 "Tilt 45 Degrees/Rotate 360 Degrees";
00032 proc g3d data=work.smooth;
00033 label dose="Dose in mg" regulary="Hours";
00034 plot dose=regulary=pulse / tllt=45 rotate=value side;
00035 run;
00036 %end;
00037 %options reset=all reset=global;
00038 %mend animate;
00039 %xanimate;
00040
00041
00042 data _null_;
00043 file 'c:\animate.html';
00044 put <h1>Animated GIF HTML Example</h1>;
00045 / <h2>(Look Mom, see what I can do!)</h2>;<br>;
00046 / </img>;
00047 put </img src="c:\animate.gif"></img>;
00048 run;
00049 x "c:\progra\1\intern\1\explora.exe c:\animate.html";
00050
  
```



### Version 8 and the Output Delivery System

When ODS was introduced in Version 8 of SAS software, a whole new way of publishing was created.

The simplest form of output can be seen by the following example.

First, notice the typical style of using ODS.

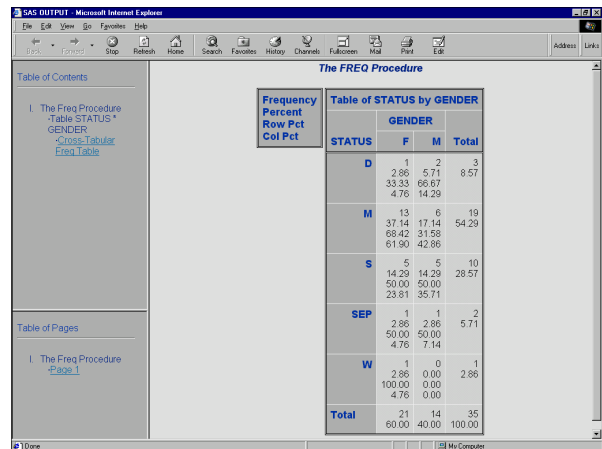
1. The ODS 'capture style' utility is turned on.
2. The process executes.
3. The ODS utility is turned off.

The general ODS syntax can look like the following.

```

Program Editor - (Untitled)
Command ==>
00001 ods html body='c:\body.html'
00002 contents='c:\contents.html'
00003 page='c:\page.html'
00004 frame='c:\frame.html';
00005
00006 proc freq data=saved.denograf;
00007 table status*gender;
00008 run;
00009 ods html close;
00010
00011
  
```

This syntax routes HTML output anywhere you desire. It creates four files. The FRAME.HTML file pulls them all together.

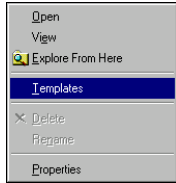


### Styles in HTML

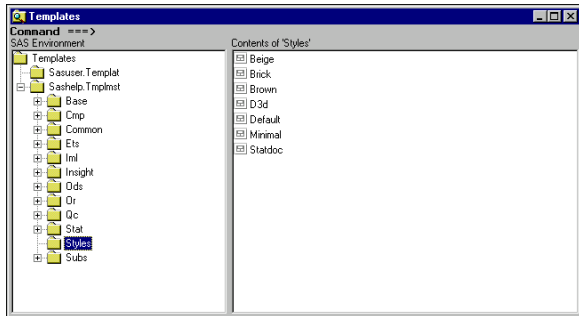
There are several HTML styles that come with SAS. They are designed to allow the user to create an HTML standard of colors, fonts and more across all HTML output. Any of the default ones can be used, or they can be modified to suit your needs. To see the existing styles, go to the Results window and select.



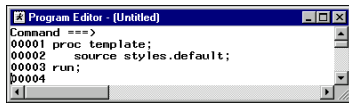
Right click and select Templates.



Select SASHELP.TMPLMST, Styles to see the available styles.



To examine a style, execute Proc Template with the Style name. Default is the default style used.



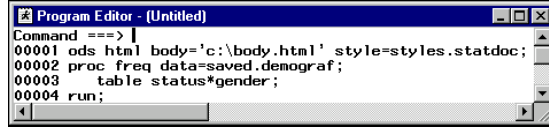
```

Command ==> |
254 proc template;
255   source styles.default;
define style Styles.Default;
  style fonts /
    'TitleFont2' = ('Arial, Helvetica, Helv',4,Bold Italic)
    'TitleFont' = ('Arial, Helvetica, Helv',5,Bold Italic)
    'StrongFont' = ('Arial, Helvetica, Helv',4,Bold)
    'EmphasisFont' = ('Arial, Helvetica, Helv',3,Italic)
    'FixedEmphasisFont' = ('Courier,3,Italic)
    'FixedStrongFont' = ('Courier,4,Bold)
    'FixedHeadIngFont' = ('Courier,4)
    'FixedFont' = ('Courier,4)
    'headingEmphasisFont' = ('Arial, Helvetica, Helv',4,Bold Italic)
    'headingFont' = ('Arial, Helvetica, Helv',4,Bold)
    'docFont' = ('Arial, Helvetica, Helv',3);
  style color_list /
    'fgB2' = cx0066AA
    'fgB1' = cx004488
    'fgA4' = cx00FFAA
    'bgA4' = cx880000
    'bgA3' = cxD3D3D3
    'fgA2' = cx0033AA
    'bgA2' = cx808080
    'fgA1' = cx000000
    'bgA1' = cxF0F0F0
    'fgA' = cx002288
    'bgA' = cxE0E0E0;
  style colors /
    'headerfgemph' = color_list('fgA2')
    'headerbgemph' = color_list('bgA2')
    'headerfgstrong' = color_list('fgA2')
    'headerbgstrong' = color_list('bgA2')

```

Cut and paste the code for modification. Rerun it with a new name and your own style can be created.

To select a style, use the ODS statement



It produces the following HTML. (Looks different than styles.default)

The FREQ Procedure

STATUS	GENDER			Total
	F	M		
D	1	2		3
	2.86	5.71		8.57
	33.33	66.67		
	4.76	14.29		
M	13	6		19
	37.14	17.14		54.29
	68.42	31.58		
	61.90	42.86		
S	5	5		10
	14.29	14.29		28.57
	50.00	50.00		
	23.81	35.71		
SEP	1	1		2
	2.86	2.86		5.71
	50.00	50.00		
	4.76	7.14		
W	1	0		1
	2.86	0.00		2.86
	100.00	0.00		
	4.76	0.00		
Total	21	14		35

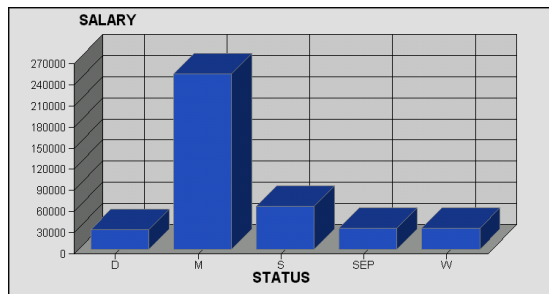
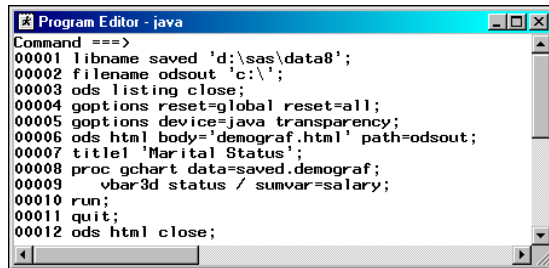
See the online help to learn more about changing styles and what the values mean.

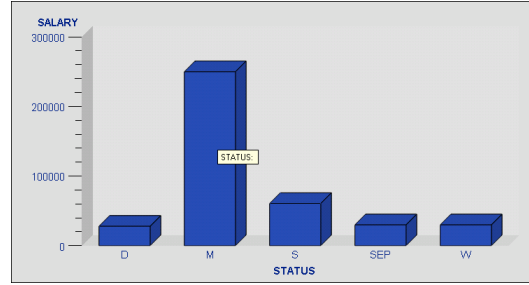
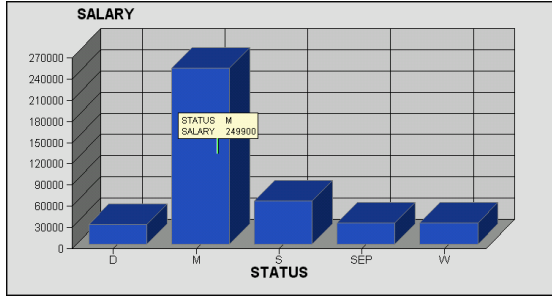
### Graphical Support

There are several other drivers available for outputting graphical objects. Consider the following.

### Java Support

There is Java support. Consider the following driver.





There are several menus available from the right click of a mouse.

A right click yields many possibilities.

- Graph
  - Options
  - Tools
  - Variables
  - About
- 2D
  - Backdrop
  - Colors
  - Image
  - Legend
  - Grid
  - Shape
  - Style
  - Type
- Drilldown
  - Tips
- Print...
  - Save...
- Dependent
  - Depth
  - Group
  - Independent
  - Subgroup
- Applet
  - SAS Institute

- File
  - View
  - Graph
  - Axis
  - Legend
  - Explore
  - Variables
  - About
  - Properties...

- SaveAs...
- Print...
- Copy To Clipboard
- Paste From Clipboard

- 2D View
  - Reset Eyepoint

- Appearance
  - Lighting...
  - Type

- Labels
  - Orientation
  - Shape
  - Wall...
  - Background...
  - Color Scheme...

- Bar
- Box
- Contour
- High Low
- Map
- Plot
- Pie
- Surface

- Horizontal
- Vertical
- Depth

- Border
  - Position
  - Title...
  - Text...
  - Visible

- Chart Tips
- Drilldown
- Scrollbars
- Mouse

- Variables...

Experiment with each to understand the capabilities.

**Active X Support**

SAS now supports Active X controls. Consider the following code with the Active X Driver.

```

Program Editor - activex2
Command ==> ]
00001 libname saved 'd:\sas\data8';
00002 filename odsout 'c:\';
00003 ods listing close;
00004 options reset=global reset=all;
00005 options device=activex transparency;
00006 ods html body='demograf.html' path=odsout;
00007 title1 'Marital Status';
00008 proc gchart data=saved.demograf;
00009     vbar3d status / sumvar=salary;
00010 run;
00011 quit;
00012 ods html close;
    
```

Consider testing out the different options.

### Using Styles in Procedures

Style options are available in SAS. Their syntax is added to procedures when formatting them for output. This is available on the procedure level in the following way. Use the syntax

S={foreground=blue}

At various locations to specify colors.

Current supported Procedures are Tabulate and Report.

### Styles in Proc Tabulate

```

Program Editor - tabcolor
Command ==> |
00001 libname saved 'd:\sas\data8';
00002
00003 ods html body="c:\tabcolor.html";
00004 ods listing close;
00005
00006 title 'Tabulate Color Example using styles';
00007 footnote;
00008 proc tabulate data=saved.demograf;
00009 class status gender / s={foreground=blue};
00010 classlev status gender / s={foreground=yellow};
00011 var salary age / s={foreground=white};
00012 keyword all sum / s={foreground=white};
00013 keylabel all="Total";
00014 table status,gender*(s={foreground=orange});
00015 run;
00016
00017 ods html close;
00018 ods listing;
00019
    
```

Tabulate Color Example using styles

	GENDER	
	F	M
STATUS	N	N
D	1	2
M	13	6
S	5	5
SEP	1	1
W	1	

Additional examples use background and font\_style.

```

Program Editor - tabcolor
Command ==> |
00001 libname saved 'd:\sas\data8';
00002
00003 ods html body="c:\tabcolor.html";
00004 ods listing close;
00005
00006 title 'Tabulate Color Example using styles';
00007 footnote;
00008 proc tabulate data=saved.demograf;
00009 class status gender / s={background=cyan foreground=blue};
00010 classlev status gender / s={foreground=yellow};
00011 var salary age / s={foreground=white};
00012 keyword all sum / s={foreground=white};
00013 keylabel all="Total";
00014 table status,gender*(s={foreground=orange font_style=italic})*salary;
00015 run;
00016
00017 ods html close;
00018 ods listing;
00019
    
```

Tabulate Color Example using styles

	GENDER	
	F	M
	SALARY	SALARY
	Sum	Sum
STATUS		
D	8000.00	20000.00
M	131600.00	118300.00
S	43000.00	17800.00
SEP	18000.00	12000.00
W	30000.00	

### Styles in Proc Report

```

Program Editor - tabcolor
Command ==> |
00001 libname saved 'd:\sas\data8';
00002
00003 ods html body="c:\report.html";
00004 ods listing close;
00005
00006 title 'Report Color Example using styles';
00007 footnote;
00008 proc report data=saved.demograf nowindows;
00009 column gender status age salary;
00010 define gender / group style={foreground=green};
00011 define status / group style={foreground=blue};
00012 define age / mean style={foreground=red};
00013 define salary / sum style={foreground=brown};
00014 run;
00015
00016 ods html close;
00017 ods listing;
00018
    
```

Report Color Example using styles

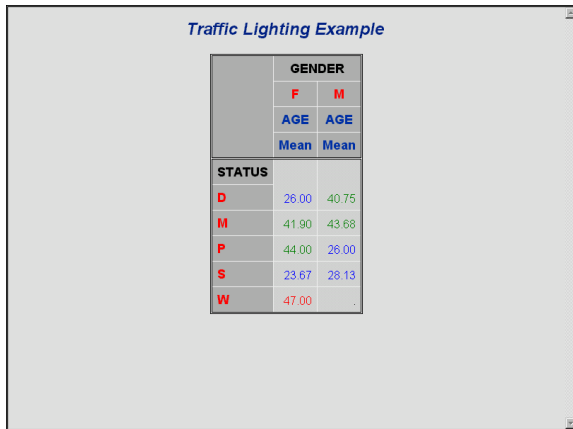
GENDER	STATUS	AGE	SALARY
F	D	29	8000
	M	42.923077	131600
	S	17.2	43000
	SEP	23	18000
	W	46	30000
M	D	34.5	20000
	M	36.666667	118300
	S	16.6	17800
	SEP	55	12000

### Traffic Lighting

This is a technique that employs styles with formatted values to allow changing the color and presentation of cells as the value changes. Examine the following code.

```

Command ==>
00001 ods html body="c:\traffic";
00002 ods listing close;
00003
00004 title 'Traffic Lighting Example';
00005 proc format;
00006 value agefmt
00007 1-18 = 'cx4DAEGE'
00008 19-30 = 'Blue'
00009 31-45 = 'Green'
00010 46-65 = 'Red'
00011 other = 'Gray';
00012 run;
00013
00014 proc tabulate data=saved.demogius style={foreground=agefmt.};
00015 class status gender / s={foreground=black};
00016 classlev status gender / s={foreground=red};
00017 var age;
00018 table status,gender*age*mean;
00019 run;
00020
00021 ods html close;
00022 ods listing;
    
```



### Hyperlinks in Graphs and Reports

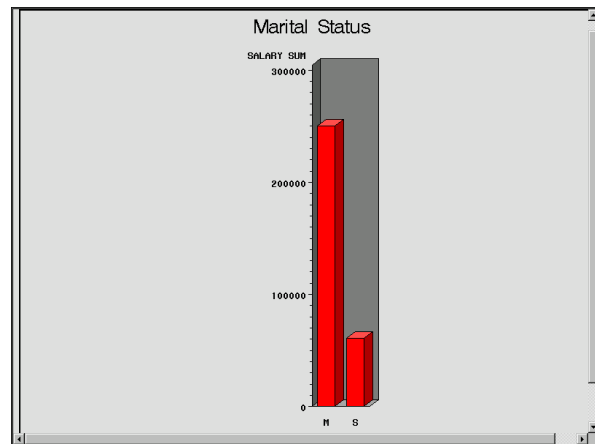
#### Hyperlinks in Graphs

In Version 8 of SAS Software, HTML examples that link to each other are possible. Wouldn't it be great to create a graph and then be able to click on the items in the graph to branch to appropriate detail about those items?

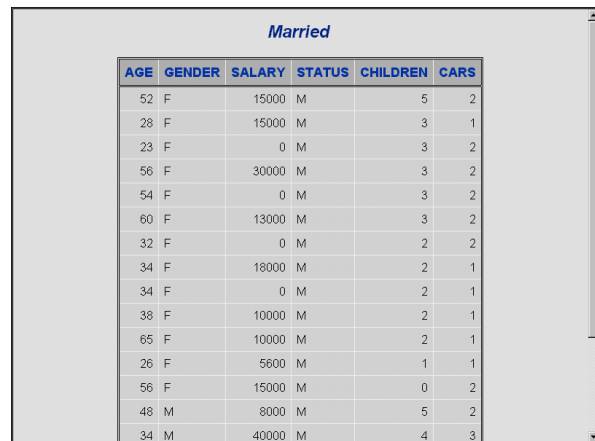
The following code could create that result.

```

Command ==>
00001 libname saved 'd:\sas\data8';
00002 filename odsout 'c:\';
00003 ods listing close;
00004 options reset=global;
00005 data work.demograf;
00006 length linkme $ 40;
00007 set saved.demograf;
00008 if status='S' then linkme = 'href="single.html"';
00009 else if status='M' then linkme = 'href="married.html"';
00010 run;
00011 goptions device=gif transparency;
00012 ods html body='demograf.html' path=odsout;
00013 title 'Marital Status';
00014 proc gchart data=work.demograf;
00015 vbar3d status / sumvar=salary
00016 htl=linkme;
00017 where status in ('S','M');
00018 run;
00019 quit;
00020
00021 ods html body='single.html' path=odsout;
00022 title 'Singles';
00023 proc print data=work.demograf(drop=linkme) noobs;
00024 where status='S';
00025 run;
00026
00027 ods html body='married.html' path=odsout;
00028 title 'Married';
00029 proc print data=work.demograf(drop=linkme) noobs;
00030 where status='M';
00031 run;
00032 ods html close;
00033 ods listing;
00034
    
```



Click on the appropriate bars to see the detail.



**Singles**

AGE	GENDER	SALARY	STATUS	CHILDREN	CARS
12	F	0	S	0	0
16	F	0	S	0	0
6	F	0	S	0	0
22	F	13000	S	0	1
30	F	30000	S	0	1
11	M	0	S	0	0
2	M	0	S	0	0
14	M	0	S	0	0
23	M	10000	S	0	1
33	M	7800	S	0	1

The key items to get this to work are the following:

1. Use the GIF driver for graph output.
2. Create a variable attached to the grouped data item that includes a valid hyperlink. Here we use LINKME.
3. Use the HTML= option on the charting statement.

**Hyperlinks in Reports**

This is an easy task by formatting the values with predefined hyper links. Examine the following code:

```

Program Editor - tabuhref
Command ==> |
00001 ods html body='c:\traffic';
00002 ods listing close;
00003 title 'Hyperlinks in Procedures';
00004 proc format;
00005 value agefmt
00006 1-18 = 'cx4DAEGE'
00007 19-30 = 'Blue'
00008 31-45 = 'Green'
00009 46-65 = 'Red'
00010 other = 'Gray';
00011 value $status
00012 'D' = '<a href=divorced.html>Divorced</a>'
00013 'M' = '<a href=married.html>Married</a>'
00014 'W' = '<a href=widowed.html>Widowed</a>'
00015 'S' = '<a href=single.html>Single</a>'
00016 'P' = '<a href=separated.html>Separated</a>'
00017 ;
00018 run;
00019 proc tabulate data=saved.demogius style={foreground=agefmt.};
00020 class status gender / s={foreground=black};
00021 classlev status gender / s={foreground=red};
00022 var age ;
00023 table status,gender*age*mean;
00024 format status $status.;
00025 run;
00026 ods html close;
00027
00028 **** Not all status prints are shown;
00029 ods html body='c:\divorced.html';
00030 proc print data=saved.demogius;
00031 where status='D';
00032 run;
00033 ods html close;
00034
00035 ods listing;
00036
    
```

**Hyperlinks in Procedures**

	GENDER	
	F	M
AGE	AGE	AGE
	Mean	Mean
STATUS		
Divorced	26.00	40.75
Married	41.90	43.88
Separated	44.00	26.00
Single	23.67	28.13
Widowed	47.00	

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