

Using SAS to Publish Web Pages

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Using SAS to Publish Static Web Pages - Microsoft Internet Explorer

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Using SAS to Publish Web Pages

The SAS System currently offers three free macros that enables you to create static Web pages that display your SAS output or data. You need a Web browser that supports HTML2.0 or higher. To display tables your browser must support HTML3.x. The macros can be used in batch mode. If you use SAS Release 6.12 you can also use them in interactive mode.

These are some of the releases of SAS where the macros are available:

System	Platform	Supported Release(s)
UNIX	Solaris 1 & 2	6.11 and 6.12
	IBM AIX (RS/6000)	6.11 and 6.12
PC	Windows (all)	6.11 and 6.12
	Mac Power PC	6.11 and 6.12
Mainframe	MVS	6.09E TS455

The macros and their documentation can be downloaded from SAS Institute's Web site at <http://www.sas.com/rnd/web/format/index.html>. The three macros are called:

Using SAS to Publish Static Web Pages - Microsoft Internet Explorer		
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		Release(s)
UNIX	Solaris 1 & 2	6.11 and 6.12
	IBM AIX (RS/6000)	6.11 and 6.12
PC	Windows (all)	6.11 and 6.12
	Mac Power PC	6.11 and 6.12
Mainframe	MVS	6.09E TS455

The macros and their documentation can be downloaded from SAS Institute's Web site at <http://www.sas.com/md/web/format/index.html>. The three macros are called:

Macro Name	Description
DS2HTM	Used to display SAS data sets
OUT2HTM	Used to display output from SAS procedures
TAB2HTM	Used to display tables from PROC TABULATE

In addition to these macros, SAS/GRAFPH offers device drivers to produce [GIF](#) and [JPEG](#) graphs that can later be included in Web pages.

The DS2HTM Macro - Microsoft Internet Explorer

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The DS2HTM Macro

The DS2HTM macro is used to display a SAS data set in a Web page. Among other features, it allows you to:

- specify the variables to display
- specify the observations to display
- enhance attributes like color and font

Here are some examples and the SAS programs used to create them:

1. Example 1 illustrates a simple use of the DS2HTM macro.
[SAS Program](#)
[Result](#)
2. Example 2 illustrates a more advanced example where a DATA step is used to change the color of some of the data displayed.
[SAS Program](#)
[Result](#)

[Return to the home page](#)

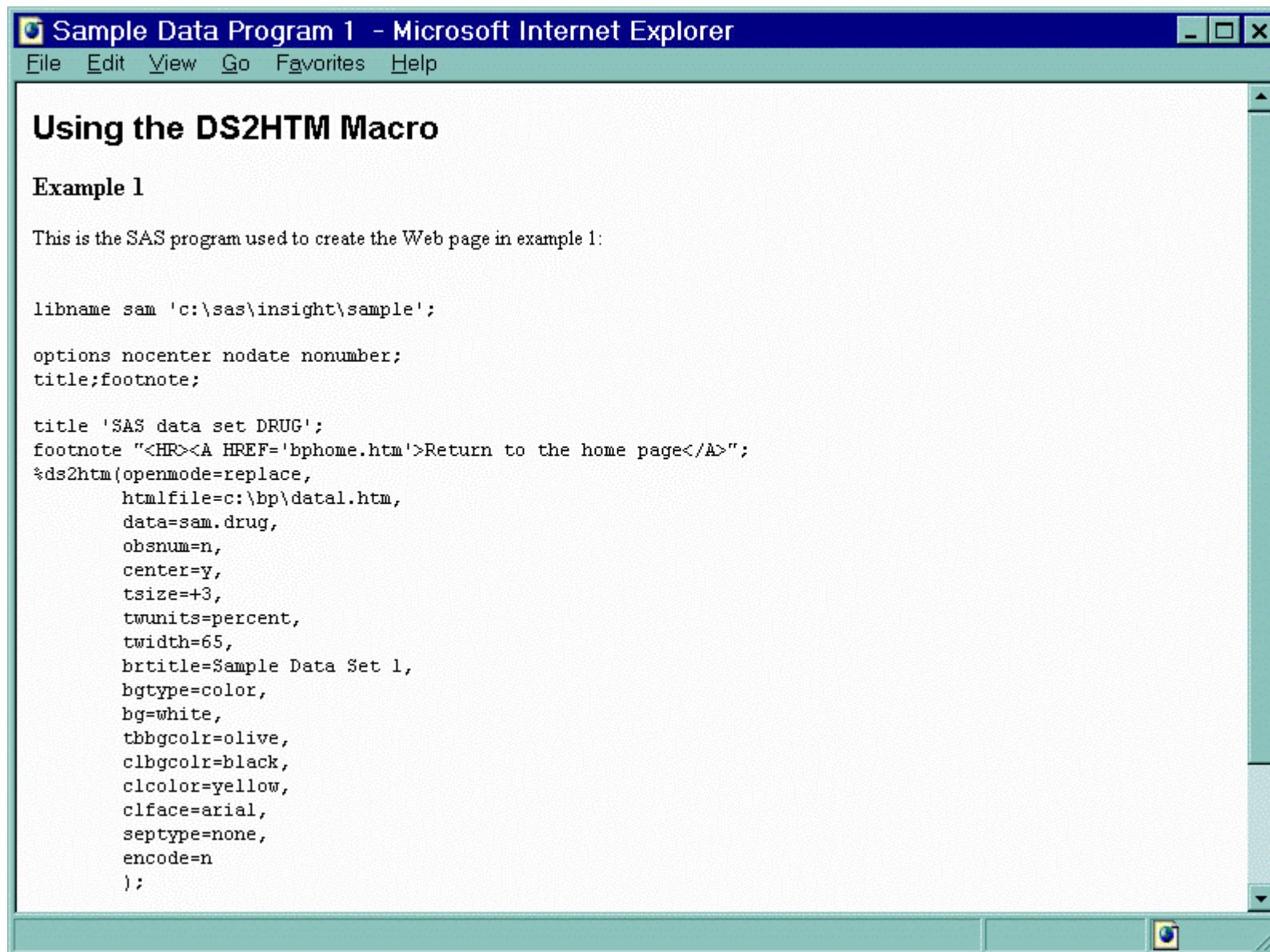
Done

Sample Data Set 1 - Microsoft Internet Explorer

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SAS data set DRUG

Drug	Disease	Change in Blood Pressure
1	1	42
1	1	44
1	1	36
1	1	13
1	1	19
1	1	22
1	2	33
1	2	40
1	2	26
1	2	34
1	2	33
1	2	21
1	3	31
1	3	-3
1	3	19
1	3	25
1	3	25
1	3	24



Sample Data Set 2 - Microsoft Internet Explorer

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SAS data set DRUG

Blood Pressures of at Least 40 are Highlighted

Obs.	Drug	Disease	Change in Blood Pressure
1	1	1	42
2	1	1	44
3	1	1	36
4	1	1	13
5	1	1	19
6	1	1	22
7	1	2	33
8	1	2	40
9	1	2	26
10	1	2	34
11	1	2	33
12	1	2	21
13	1	3	31
14	1	3	-3
15	1	3	19
16	1	3	25
17	1	3	25

Done

Sample Data Program 2 - Microsoft Internet Explorer

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Using the DS2HTM Macro

Example 2

This is the SAS program used to create the Web page in example 2:

```
libname sam 'c:\sas\insight\sample';

options nocenter nodate nonumber;
title;footnote;

data drug;
set sam.drug;
length newchbp $ 200;
label newchbp='Change in Blood Pressure';
if chang_bp ge 40 then
  newchbp='<FONT COLOR=RED> '||put(chang_bp,5.)||'|</FONT>';
else newchbp='<FONT COLOR=BLACK> '||put(chang_bp,5.)||'|</FONT>';
run;

title 'SAS data set DRUG<HR>';
footnote "<HR><A HREF='bphome.htm'>Return to the home page</A>";

%ds2htm(openmode=replace,
        htmlfile=c:\bp\data2.htm,
        data=drug,
        center=y,
        var=drug disease newchbp,
        obsnum=y,
        tsize=+3,
```

Sample Data Program 2 - Microsoft Internet Explorer

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```
if chang_bp ge 40 then  
    newchbp='<FONT COLOR=RED>' || put(chang_bp,5.) || '</FONT>';  
else newchbp='<FONT COLOR=BLACK>' || put(chang_bp,5.) || '</FONT>';  
run;  
  
title 'SAS data set DRUG<HR>';  
footnote "<HR><A HREF='bphome.htm'>Return to the home page</A>";  
  
%ds2htm(openmode=replace,  
        htmlfile=c:\bp\data2.htm,  
        data=drug,  
        center=y,  
        var=drug disease newchbp,  
        obsnum=y,  
        tsize=+3,  
        twunits=percent,  
        twidth=65,  
        brtitle=Sample Data Set 2,  
        caption=Blood Pressures of at Least 40 are Highlighted,  
        ccolor=red,  
        bgtype=color,  
        bg=white,  
        septype=none,  
        encode=n  
);
```

See [results](#).

[Return to the home page](#)

The OUT2HTM Macro - Microsoft Internet Explorer

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The OUT2HTM Macro

The OUT2HTM macro is used to display SAS output in a Web page. It allows you to enhance your results by modifying colors and fonts.

In the example presented here output from PROC UNIVARIATE is captured into a Web page.

- [SAS Program](#)
- [Result](#)

[Return to the home page](#)

Done

Sample Output - Microsoft Internet Explorer

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Change in Blood Pressure Simple Statistics

Univariate Procedure

		Variable=CHANG_BP		Change in Blood Pressure					
		Moments			Quantiles(Def=5)				
N	72	Sum Wgts	72	100%	Max	44	99%	44	Lowest
Mean	19.16667	Sum	1380	75%	Q3	30	95%	40	-6
Std Dev	13.05568	Variance	170.4507	50%	Med	21	90%	34	-5
Skewness	-0.1015	Kurtosis	-0.94171	25%	Q1	9	10%	1	-4
USS	38552	CSS	12102	0%	Min	-6	5%	-3	-3
CV	68.11658	Std Mean	1.538626				1%	-6	-2
	T:Mean=0	12.457	Pr> T	0.0001	Range	50			
	Num ^= 0	72	Num > 0	67	Q3-Q1	21			
	M(Sign)	31	Pr>= M	0.0001	Mode	9			
	Sgn Rank	1268	Pr>= S	0.0001					

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Done

Sample Output Program - Microsoft Internet Explorer

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Using the OUT2HTM Macro

This is the SAS program used to create the Web page :

```
libname sam 'c:\sas\insight\sample';

options nocenter nodate nonumber;
title;footnote;

%out2htm(capture=on,
      window=output,
      runmode=b);

title 'Change in Blood Pressure';
title2 'Simple Statistics<HR>';
footnote "<HR><A HREF='bphome.htm'>Return to the home page</A>";

proc univariate data=sam.drug;
  var chang_bp;
run;

%out2htm(capture=off,
      htmlfile=c:\bp\stats.htm,
      openmode=replace,
      tsize=+3,
      encode=n,
      brtitle=Sample Output,
      bgtype=color,
      bg=white,
      septype=none,
```

Done

The TAB2HTM Macro - Microsoft Internet Explorer

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The TAB2HTM Macro

The TAB2HTM macro is used to display output from the TABULATE procedure in a Web page. Among other features, it allows you to:

- specify a background color or image,
- specify attributes for the column, row and cell values

Here are some examples and the SAS programs used to create them:

1. Example 1 illustrates a simple use of the TAB2HTM macro.
[SAS Program](#)
[Result](#)
2. Example 2 illustrates a more advanced example where a PROC FORMAT is used to create a drilldown table. This example uses the TAB2HTM macro and the DS2HTM macro.
[SAS Program](#)
[Result](#)

[Return to the home page](#)

Done

Sample Table 1 - Microsoft Internet Explorer

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Average Change in Blood Pressure

Disease	Drug			
	1	2	3	4
1	29.33	30.00	17.33	14.50
2	31.17	33.00	3.00	12.83
3	20.17	18.17	7.50	13.00

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Done

Sample Table Program 1 - Microsoft Internet Explorer

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Using the TAB2HTM Macro

Example 1

This is the SAS program used to create the Web page in example 1:

```
libname sam 'c:\sas\insight\sample';

options nocenter nodate nonumber;
title;footnote;

%tab2htm(capture=on);

title 'Average Change in Blood Pressure';
footnote "<HR><A HREF='bphome.htm'>Return to the home page</A>";

proc tabulate data=sam.drug formchar='82838485868788898a8b8c'x;
  class drug disease;
  var chang_bp;
  table disease,drug*chang_bp=' ' *mean=' ';
run;

%tab2htm(capture=off,
          openmode=replace,
          htmlfile=c:\bp\avgtab.htm,
          encode=n,
          tsize=+3,
          center=y,
          brtitle=Sample Table 1,
          septype=none,
```

 Sample Table Program 1 - Microsoft Internet Explorer

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```
title 'Average Change in Blood Pressure';
footnote "<HR><A HREF='bphome.htm'>Return to the home page</A>";

proc tabulate data=sam.drug formchar='82838485868788898a8b8c'x;
  class drug disease;
  var chang_bp;
  table disease,drug*chang_bp=' '*mean=' ';
run;

%tab2htm(capture=off,
          openmode=replace,
          htmlfile=c:\bp\avgtab.htm,
          encode=n,
          tsize=+3,
          center=y,
          brtitle=Sample Table 1,
          septype=none,
          cpad=3,cspase=2,
          tbcolr=white,
          bxcolr=magenta,
          dtag=strong,
          r1bgcolr=black,r1color=white,
          c1bgcolr=magenta,c1color=yellow,
          r1halign=center);
```

See [results](#).

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Done

Sample Table 2 - Microsoft Internet Explorer

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Average Change in Blood Pressure

	Disease		
	1	2	3
Drug Name			
<u>Drug A</u>	29.33	31.17	20.17
<u>Drug B</u>	30.00	33.00	18.17
<u>Drug C</u>	17.33	3.00	7.50
<u>Drug D</u>	14.50	12.83	13.00
Summary	22.79	20.00	14.71

Drug A

Obs.	Disease	Change in Blood Pressure
1	1	42
2	1	44
3	1	36
4	1	13
5	1	19

Done

Sample Table 2 - Microsoft Internet Explorer

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Drug C

Obs.	Disease	Change in Blood Pressure
37	1	28
38	1	21
39	1	1
40	1	29
41	1	6
42	1	19
43	2	-4
44	2	11
45	2	9
46	2	7
47	2	1
48	2	-6
49	3	21
50	3	1
51	3	2
52	3	9
53	3	3
54	3	9

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Done

Sample Table Program 2 - Microsoft Internet Explorer

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Using the TAB2HTM Macro

Example 2

This is the SAS program used to create the Web page in example 2:

```
libname sam 'c:\sas\insight\sample';

options nocenter nodate nonumber;
title;footnote;

*define formats to use with links;
proc format;
  value drug  1 = '<A HREF="#dr1"> Drug A </A>'
                2 = '<A HREF="#dr2"> Drug B </A>'
                3 = '<A HREF="#dr3"> Drug C </A>'
                4 = '<A HREF="#dr4"> Drug D </A>';
run;

%tab2htm(capture=on);

title '<A NAME="TOP">Average Change in Blood Pressure</A>';

*main table;
proc tabulate data=sam.drug formchar='82838485868788898a8b8c'x;
  class drug disease;
  var chang_bp;
  table drug='Drug Name' *f=10.2 all='Summary', disease*chang_bp=' ' *mean=' ';
  format drug drug.;

run;
```

Done

Sample Table Program 2 - Microsoft Internet Explorer

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```
*tab2htm(capture=off,
    openmode=replace,
    htmlfile=c:\bp\drilltab.htm,
    encode=n,
    tsize=+3,
    tface=strong,
    center=y,
    brtitle=Sample Table 2,
    rihalign=center,
    cspace=2, cpad=2,
    fsize=+1,
    fface=strong
);

*locations to drill down to;
*drug A;
title '<A NAME="dr1">Drug A</A>';
footnote '<A HREF="#TOP">Go to top</A>';
*ds2htm(openmode=append,
    htmlfile=c:\bp\drilltab.htm,
    data=sam.drug,
    obsnum=y,
    where=drug eq 1,
    var=disease chang_bp,
    center=y,
    tsize=+2,
    twunits=percent,
    twidth=65,
    encode=n
);
```

Done

Sample Table Program 2 - Microsoft Internet Explorer

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```
*drug B;
title '<A NAME="dr2">Drug B</A>';
footnote '<A HREF="#TOP">Go to top</A>';
%ds2htm(openmode=append,
  htmlfile=c:\bp\drilltab.htm,
  data=sam.drug,
  obsnum=y,
  where=drug eq 2,
  var=disease chang_bp,
  center=y,
  tsize=+2,
  twunits=percent,
  twidth=65,
  encode=n
);

*drug C;
title '<A NAME="dr3">Drug C</A>';
footnote '<A HREF="#TOP">Go to top</A>';
%ds2htm(openmode=append,
  htmlfile=c:\bp\drilltab.htm,
  data=sam.drug,
  obsnum=y,
  where=drug eq 3,
  var=disease chang_bp,
  center=y,
  tsize=+2,
  twunits=percent,
  twidth=65,
  encode=n
);
```

Done

Sample Table Program 2 - Microsoft Internet Explorer

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```
where drug eq 3,
var=disease chang_bp,
center=y,
tsize=+2,
twidth=65,
twunits=percent,
encode=n
);

*drug D;
title '<A NAME="dr4">Drug D</A>';
footnote '<A HREF="#TOP">Go to top</A>';
footnote2 "<HR><A HREF='bphome.htm'>Return to the home page</A>";
%ds2htm(openmode=append,
htmlfile=c:\bp\drilltab.htm,
data=sam.drug,
obsnum=y,
where=drug eq 4,
var=disease chang_bp,
center=y,
tsize=+2,
twidth=65,
twunits=percent,
septype=none,
encode=n
);

See results.
```

[Return to the home page](#)

Done



GIF Drivers in 6.09e and 6.12 - Microsoft Internet Explorer

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Graphs Produced Using the GIF Drivers of SAS/GRAFH

Releases 6.09e and 6.12

Release 6.09e and 6.12 of SAS/GRAFH support the following GIF device drivers. They display the image in various sizes.

- [GIF160](#) (160 x 120 pixels)
- [GIF260](#) (260 x 195 pixels)
- [GIF373](#) (373 x 280 pixels)
- [GIF570](#) (570 x 480 pixels)
- [GIF733](#) (733 x 550 pixels)
- [GIF](#) (800 x 600 pixels)

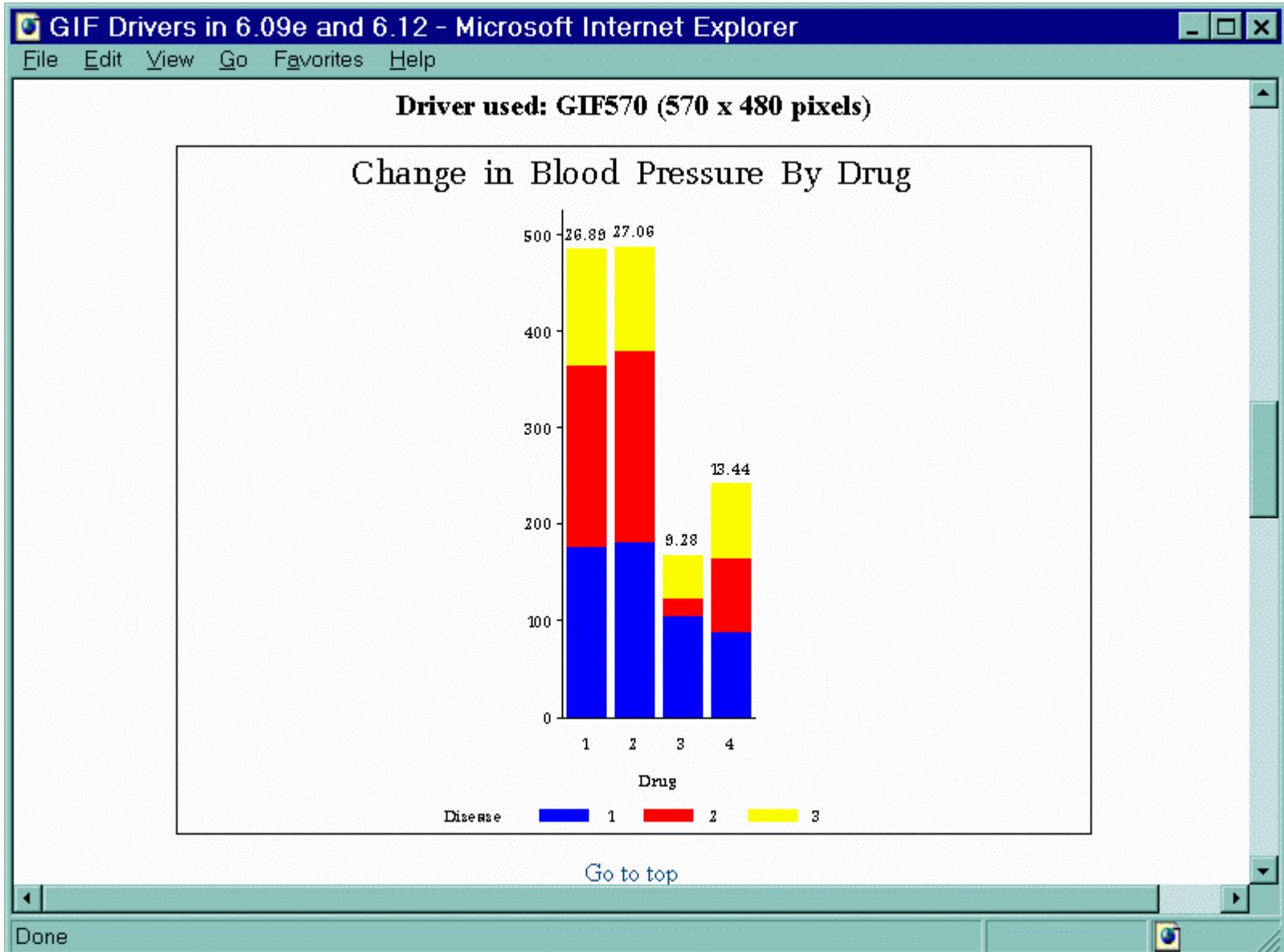
View an example of a [SAS/GRAFH program](#) used to create a GIF file.

Driver used: GIF160 (160 x 120 pixels)

The chart displays the following approximate data:

Drug	S	A	E	D
A	-1	2	1	0
B	0	1	1	0
C	1	0	1	0
D	0	0	0	1

Done



Sample SAS/GRAFH Program, Release 6.09e and 6.12 - Microsoft Internet Explorer

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Sample SAS/GRAFH Program to Create a GIF File

Releases 6.09e and 6.12

```
libname sam 'c:\sas\insight\sample';
goptions reset=all ftext=zapf border;

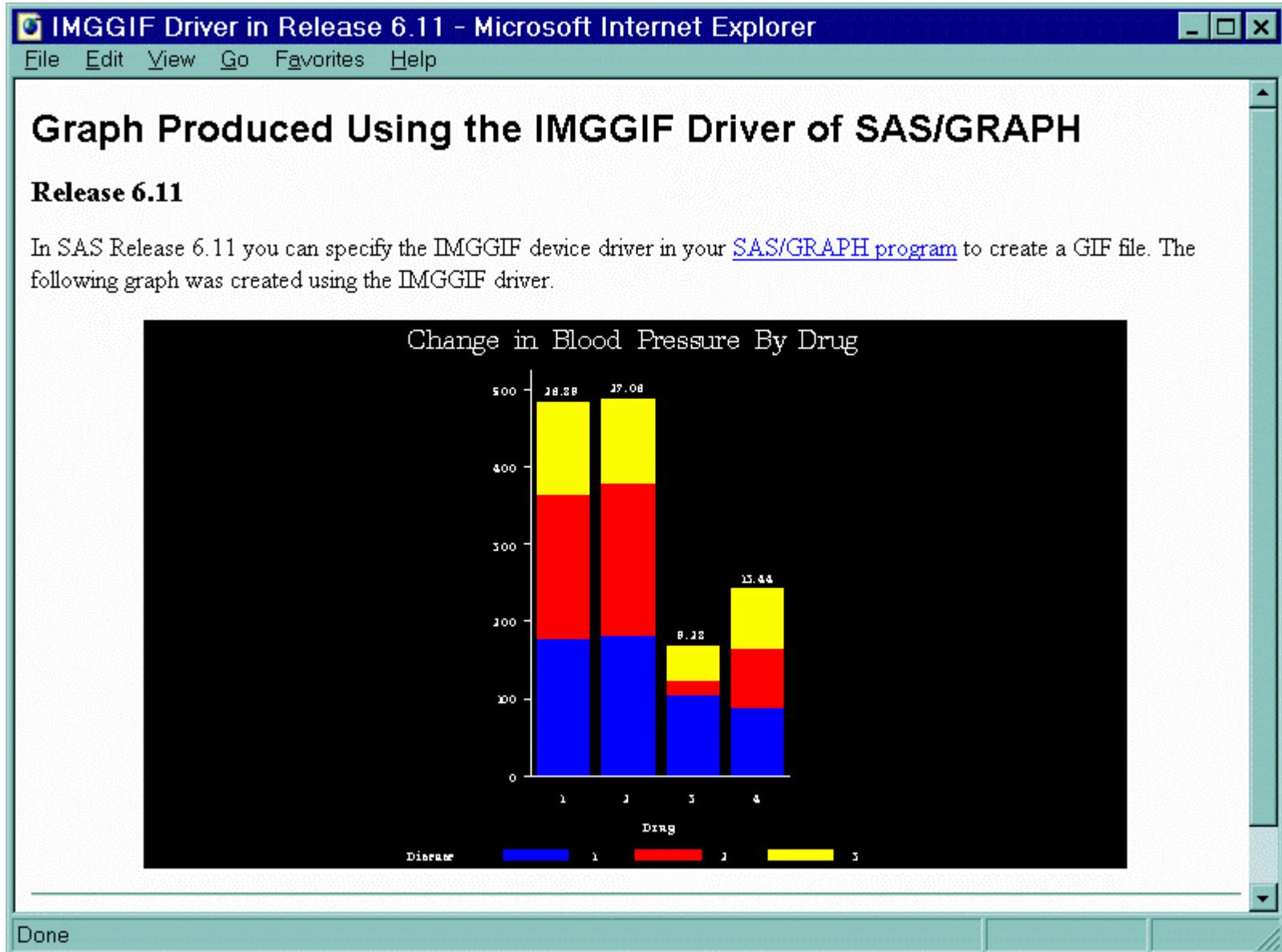
filename out 'c:\bp\bpvbar.gif';
goptions dev=gif570 gsfname=out gsfmode=replace;

pattern1 v=s c=blue;
pattern2 v=s c=red;
pattern3 v=s c=yellow;
axis1 minor=none label=none;

title 'Change in Blood Pressure By Drug';
proc gchart data=sam.drug;
  vbar drug / sumvar=chang_bp mean
    discrete
    subgroup=disease
    raxis=axis1;
run;
quit;
```

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Done



Sample SAS/GRAFH Program, Release 6.11 - Microsoft Internet Explorer

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Sample SAS/GRAFH Program to Create a GIF File

Release 6.11

```
libname sam 'c:\sas\insight\sample';
goptions reset=all ftext=zapf border;

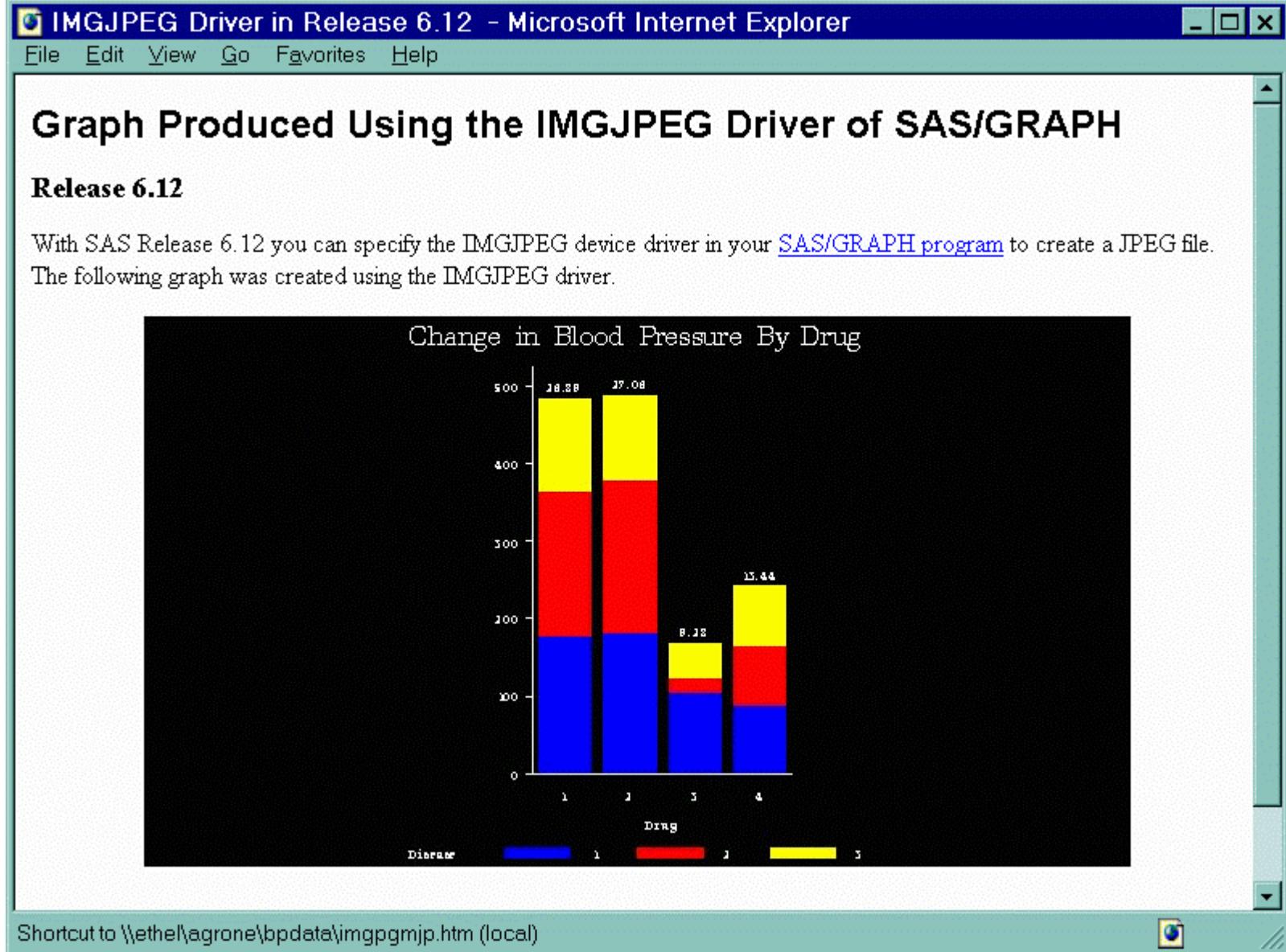
filename out 'c:\bp\bpvbar0.gif';
goptions dev=imggif gsfname=out gsfmode=replace;

pattern1 v=s c=blue;
pattern2 v=s c=red;
pattern3 v=s c=yellow;
axis1 minor=none label=none;

title 'Change in Blood Pressure By Drug';
proc gchart data=sam.drug;
  vbar drug / sumvar=chang_bp mean
    discrete
    subgroup=disease
    raxis=axis1;
run;
quit;
```

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Done



Sample SAS/GRAFH Program Using JPEG, Release ... - Microsoft Internet Explorer

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Sample SAS/GRAFH Program to Create a JPEG File

Release 6.12

```
libname sam 'c:\sas\insight\sample';
goptions reset=all ftext=zapf border;

filename out 'c:\bp\imgjpeg.jpg';
goptions dev=imgjpeg gsfname=out gsfmode=replace;

pattern1 v=s c=blue;
pattern2 v=s c=red;
pattern3 v=s c=yellow;
axis1 minor=none label=none;

title 'Change in Blood Pressure By Drug';
proc gchart data=sam.drug;
  vbar drug / sumvar=chang_bp mean
    discrete
    subgroup=disease
    raxis=axis1;
run;
quit;
```

[Return to the home page](#)

Done

For more information

- View documentation at SAS's site:
<http://www.sas.com/rnd/web/format/index.html>
- Call 301-594-3278