The Perfect Marriage: The SAS® Output Delivery System (ODS) and Microsoft Office

Chevell Parker, Technical Support Analyst
SAS Institute Inc.

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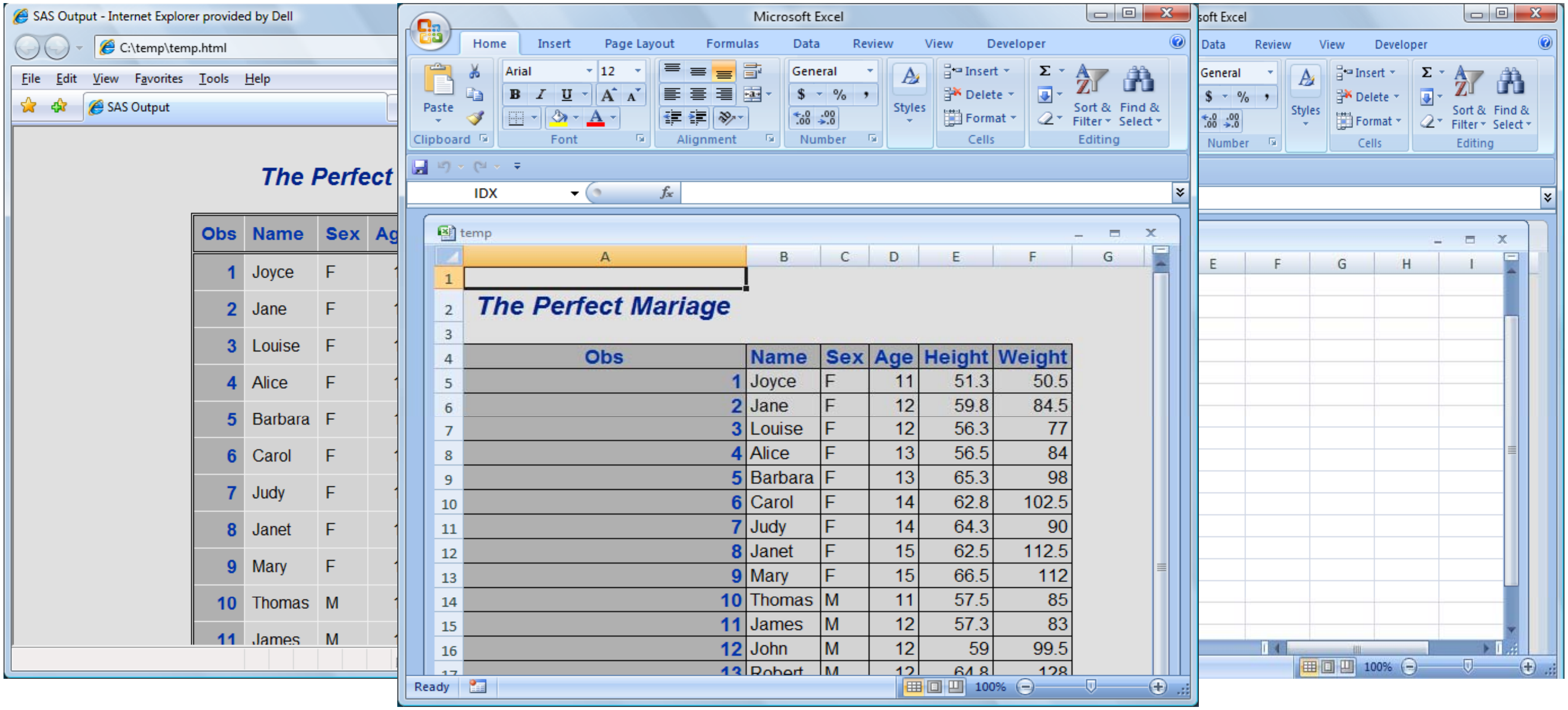
The Marriage Of SAS® ODS and Microsoft Office

ODS HTML

Microsoft Excel


SAS Output - Internet Explorer provided by Dell
C:\temp\temp.html
File Edit View Favorites Tools Help
SAS Output
Microsoft Excel
Home Insert Page Layout Formulas Data Review View Developer
Clipboard Font Alignment Number Cells Editing
Arial 12 General
Insert Delete Format Sort & Filter Find & Select Styles Paste
IDX
temp
Ready 100%

The Perfect

Obs	Name	Sex	Ag
1	Joyce	F	
2	Jane	F	
3	Louise	F	
4	Alice	F	
5	Barbara	F	
6	Carol	F	
7	Judy	F	
8	Janet	F	
9	Mary	F	
10	Thomas	M	
11	James	M	

The Perfect Mariage

Obs	Name	Sex	Age	Height	Weight
1	Joyce	F	11	51.3	50.5
2	Jane	F	12	59.8	84.5
3	Louise	F	12	56.3	77
4	Alice	F	13	56.5	84
5	Barbara	F	13	65.3	98
6	Carol	F	14	62.8	102.5
7	Judy	F	14	64.3	90
8	Janet	F	15	62.5	112.5
9	Mary	F	15	66.5	112
10	Thomas	M	11	57.5	85
11	James	M	12	57.3	83
12	John	M	12	59	99.5
13	Robert	M	12	64.8	128

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The Perfect Marriage: ODS and Microsoft Office

- ODS Destinations and Microsoft Excel
- Presentation Enhancements and Microsoft Excel
- Exporting to Microsoft Access ,Word and PowerPoint

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ODS Destinations and Excel

- ODS Destinations
- Selecting a Method of Export
- Overview of Tagsets and the ODS Markup Language

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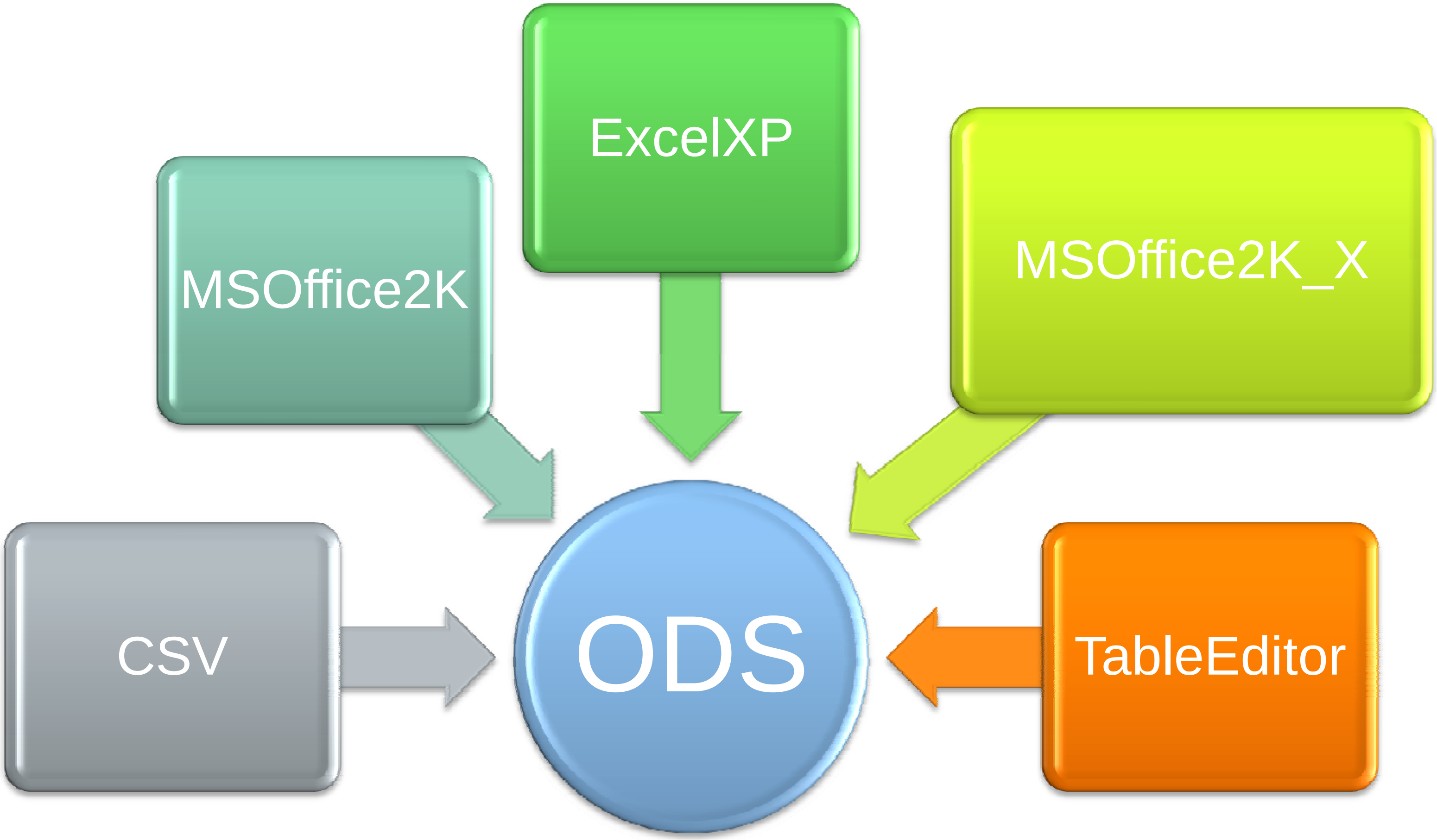
ODS Destinations



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Selecting an ODS Destination

- ODS destinations:
  - ExcelXP
  - MSOffice2K
  - CSV
  - Other custom tagsets:

    support.sas.com/rnd/base/ods/odsmarkup/index.html
    - Tagsets.MSoffice2K_X
    - Tagsets.TableEditor
- Dynamic data exchange (DDE): Very flexible
- EXPORT procedure: Use this procedure to read from and write to Excel files.

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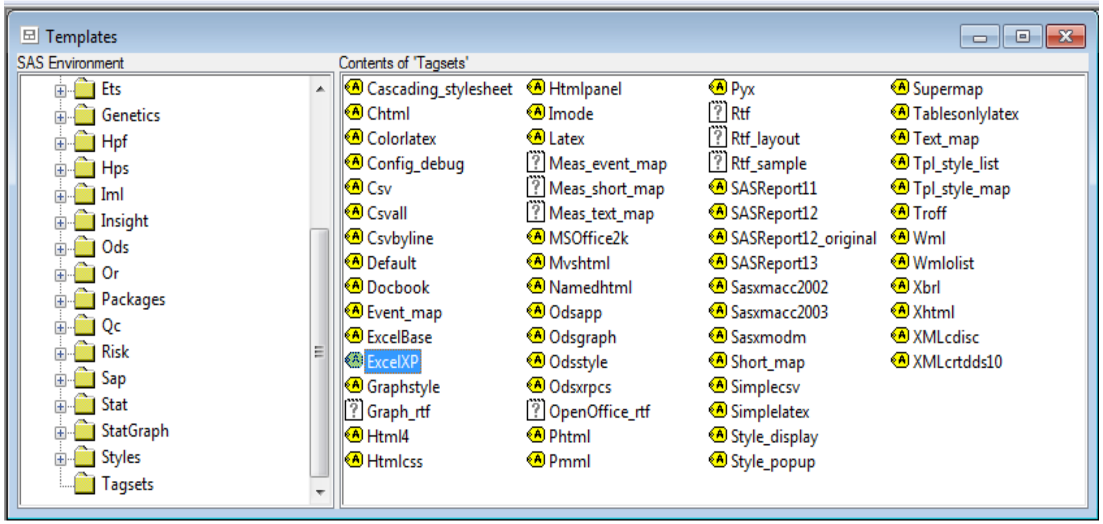
Overview of Tagsets and the ODS Markup Language

- are a collection of events
- provide complete control over the output
- enable you to create great custom applications.



Templates

SAS Environment

- Ets
- Genetics
- Hpf
- Hps
- Iml
- Insight
- Ods
- Or
- Packages
- Qc
- Risk
- Sap
- Stat
- StatGraph
- Styles
- Tagsets

Contents of 'Tagsets'

Cascading_stylesheet
Chtml
Colorlatex
Config_debug
Csv
Csvall
Csvbyline
Default
Docbook
Event_map
ExcelBase
ExcelXP
Graphstyle
Graph_rtf
Html4
Htmlcss
Htmlpanel
Imode
Latex
Meas_event_map
Meas_short_map
Meas_text_map
MSOffice2k
Mvshtml
Namedhtml
Odsapp
Odsgraph
Odsstyle
Odsxrpcs
OpenOffice_rtf
Phtml
Pmml
Pyx
Rtf
Rtf_layout
Rtf_sample
SASReport11
SASReport12
SASReport12_original
SASReport13
Sasxmacc2002
Sasxmacc2003
Sasxmodm
Short_map
Simplecsv
Simplelatex
Style_display
Style_popup
Supermap
Tablesonlylatex
Text_map
Tpl_style_list
Tpl_style_map
Troff
Wml
Wmlolist
Xbrl
Xhtml
XMLcdisc
XMLcrtdds10

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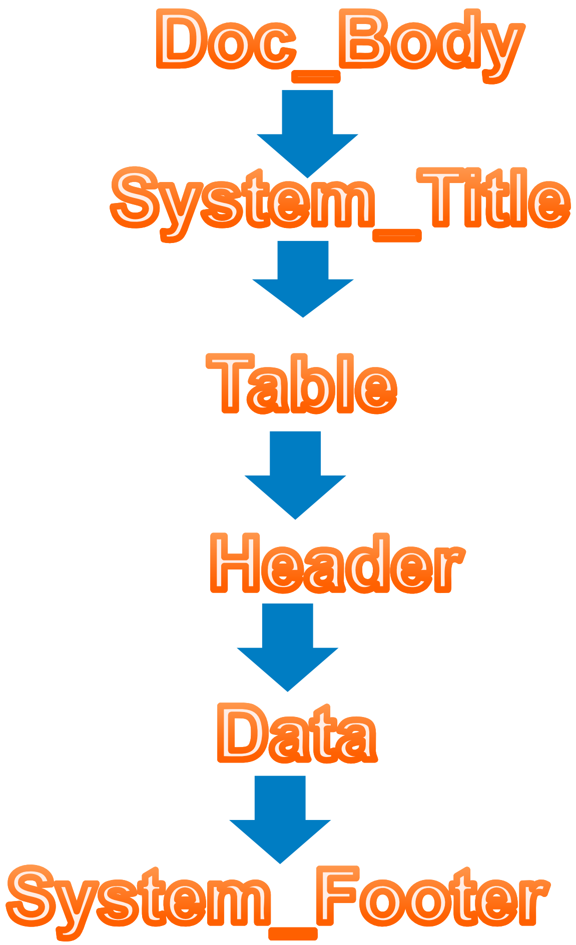


Doc_Body

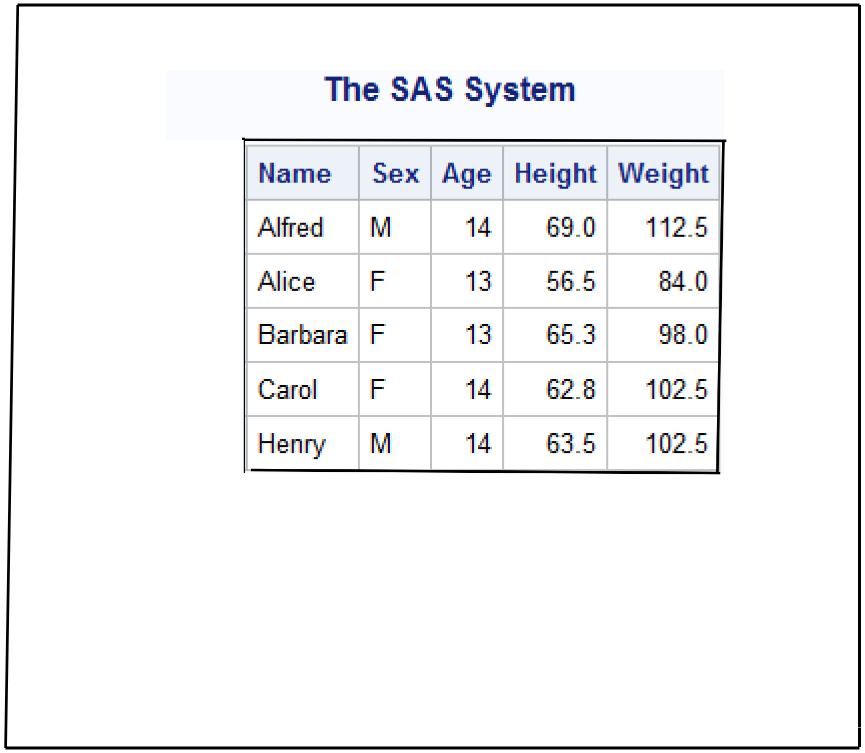
System_Title

Table

Header

Data

System_Footer



The SAS System

Name	Sex	Age	Height	Weight
Alfred	M	14	69.0	112.5
Alice	F	13	56.5	84.0
Barbara	F	13	65.3	98.0
Carol	F	14	62.8	102.5
Henry	M	14	63.5	102.5

```
define event system_footer;
        start:
           break;
           trigger spanhead1;
        finish:
           trigger spanhead1;
     end;
```

Presentation Enhancements and Excel

- ExcelXP, MSOffice2k_X and TableEditor tagset highlights
- Selecting or Creating the Perfect Style
- Positioning and Paneling Output
- Cell Formatting and Excel
- Handling File Size Issues

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ExcelXP Presentation Options

- Titles and footnotes
- Freezing headers, row headers and filters
- Driving and naming worksheets
- Formats and formulas
- Page Setup

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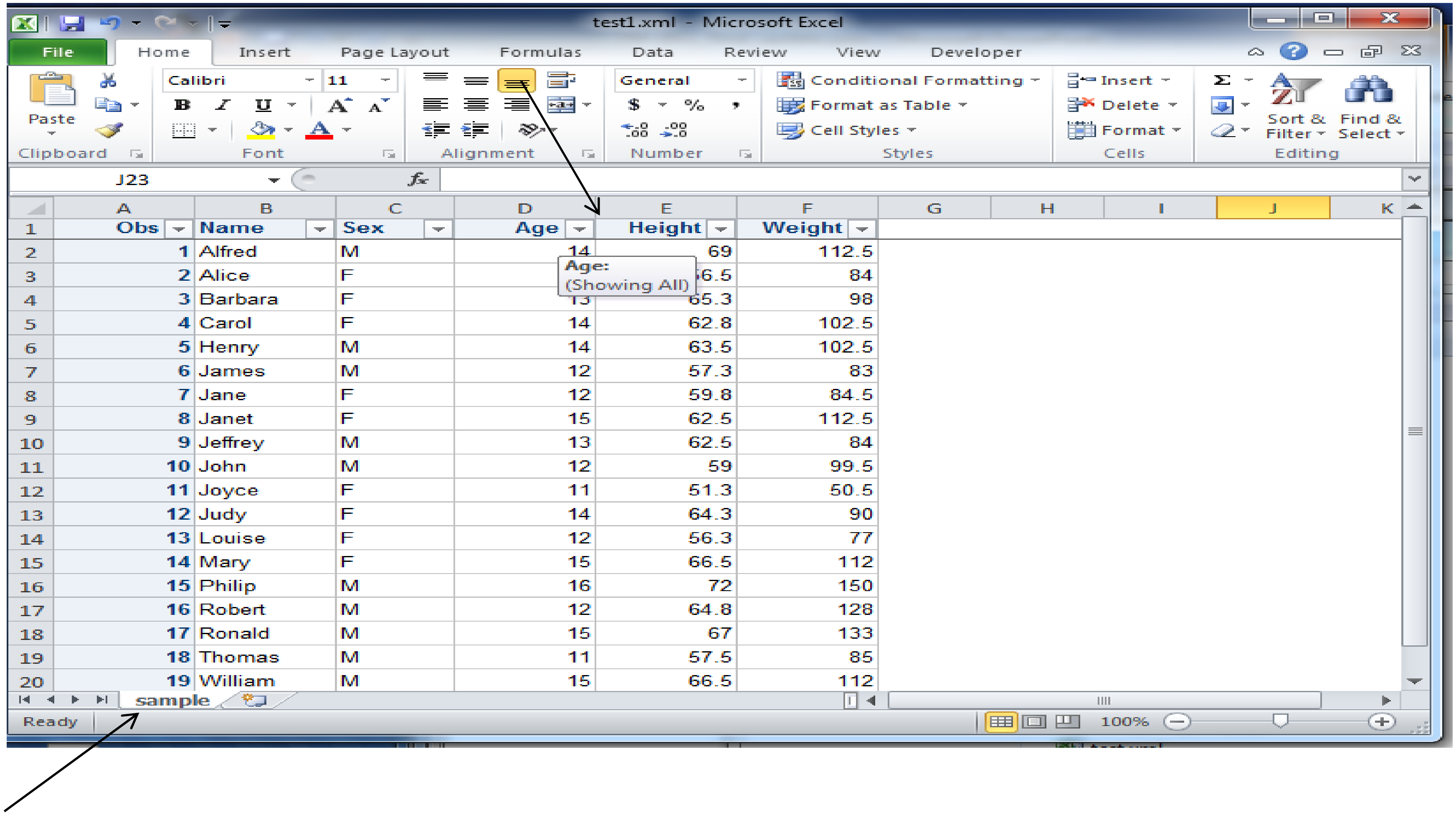
ExcelXP Presentation Options



Age:
(Showing All)

	Obs	Name	Sex	Age	Height	Weight
2	1	Alfred	M	14	69	112.5
3	2	Alice	F		56.5	84
4	3	Barbara	F	13	65.3	98
5	4	Carol	F	14	62.8	102.5
6	5	Henry	M	14	63.5	102.5
7	6	James	M	12	57.3	83
8	7	Jane	F	12	59.8	84.5
9	8	Janet	F	15	62.5	112.5
10	9	Jeffrey	M	13	62.5	84
11	10	John	M	12	59	99.5
12	11	Joyce	F	11	51.3	50.5
13	12	Judy	F	14	64.3	90
14	13	Louise	F	12	56.3	77
15	14	Mary	F	15	66.5	112
16	15	Philip	M	16	72	150
17	16	Robert	M	12	64.8	128
18	17	Ronald	M	15	67	133
19	18	Thomas	M	11	57.5	85
20	19	William	M	15	66.5	112

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Formatting and Formulas

```
style={tagattr='formula:RC[-1]*0.50'};
style={tagattr='format:#,###'};

style={tagattr='format:0%
                        formula:RC[-2]/RC[-1]'};
```

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MSoffice2K_X Presentation Options

```
ODS Tagsets.MSOffice2k_x file=’test.xls’
        Options (Worksheet_Source=“Table_1#C\temp.html,
                                   Table_2#C\temp1.html,
                                   Table_3#C\temp2.html,
                                   Table_4#C\temp3.html,
                                   Table_5#C\temp4.html,
                                   Table_6#C\temp5.html,
                                   Graph_1#C\temp6.html”);
```

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TableEditor Tagset Highlights

- Can resave output in Native Excel format
- Provides options to generate PivotTable and PivotCharts
- Common tasks in Excel are provided with Options

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Selecting or Creating the Perfect Style

- Does the color go with the theme that you need?
- Does the font emphasize the data?
- Does the font size enable you to display enough of the data?
- Do the borders make the output more readable?
- Do alternating colors make the output more readable?

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Selecting or Creating the Perfect Style

- Color selection for your worksheet
- Adding and modifying styles
- Banding rows and columns

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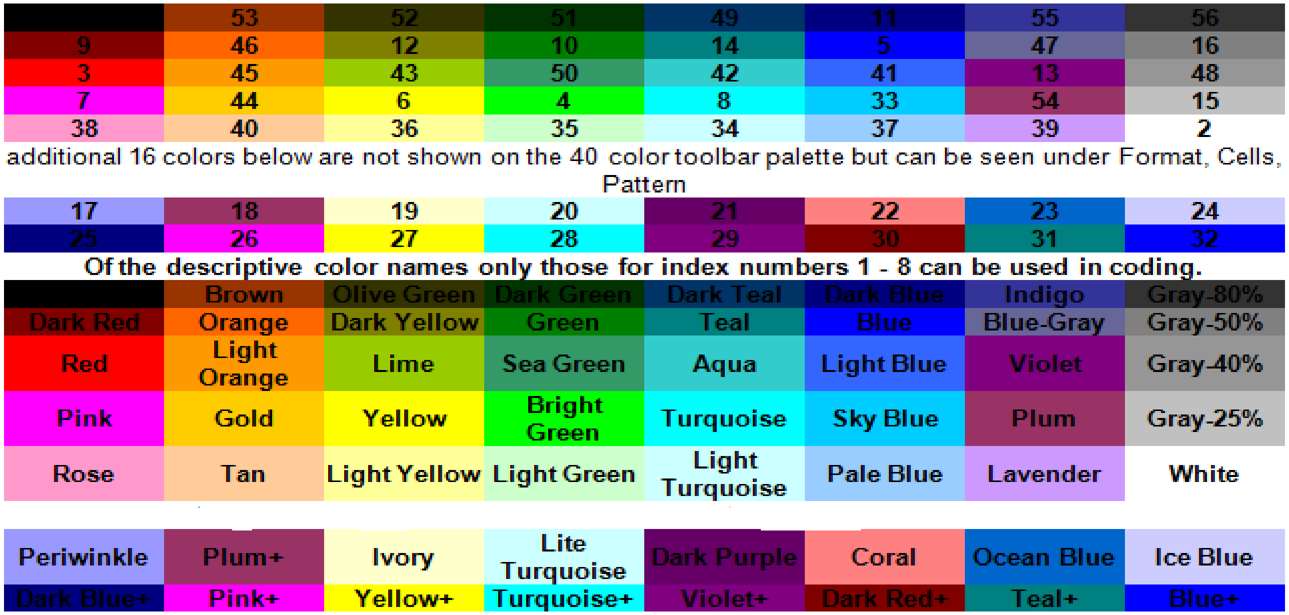
Colors and Excel

- Excel is limited to a 56-color palette prior to Excel 2007.
- Excel 2007 can have 16 million colors.
- You can specify CX or descriptive color names.



	53	52	51	49	11	55	56
9	46	12	10	14	5	47	16
3	45	43	50	42	41	13	48
7	44	6	4	8	33	54	15
38	40	36	35	34	37	39	2

additional 16 colors below are not shown on the 40 color toolbar palette but can be seen under Format, Cells, Pattern

17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32

Of the descriptive color names only those for index numbers 1 - 8 can be used in coding.

	Brown	Olive Green	Dark Green	Dark Teal	Dark Blue	Indigo	Gray-80%
Dark Red	Orange	Dark Yellow	Green	Teal	Blue	Blue-Gray	Gray-50%
Red	Light Orange	Lime	Sea Green	Aqua	Light Blue	Violet	Gray-40%
Pink	Gold	Yellow	Bright Green	Turquoise	Sky Blue	Plum	Gray-25%
Rose	Tan	Light Yellow	Light Green	Light Turquoise	Pale Blue	Lavender	White

Periwinkle	Plum+	Ivory	Lite Turquoise	Dark Purple	Coral	Ocean Blue	Ice Blue
Dark Blue+	Pink+	Yellow+	Turquoise+	Violet+	Dark Red+	Teal+	Blue+

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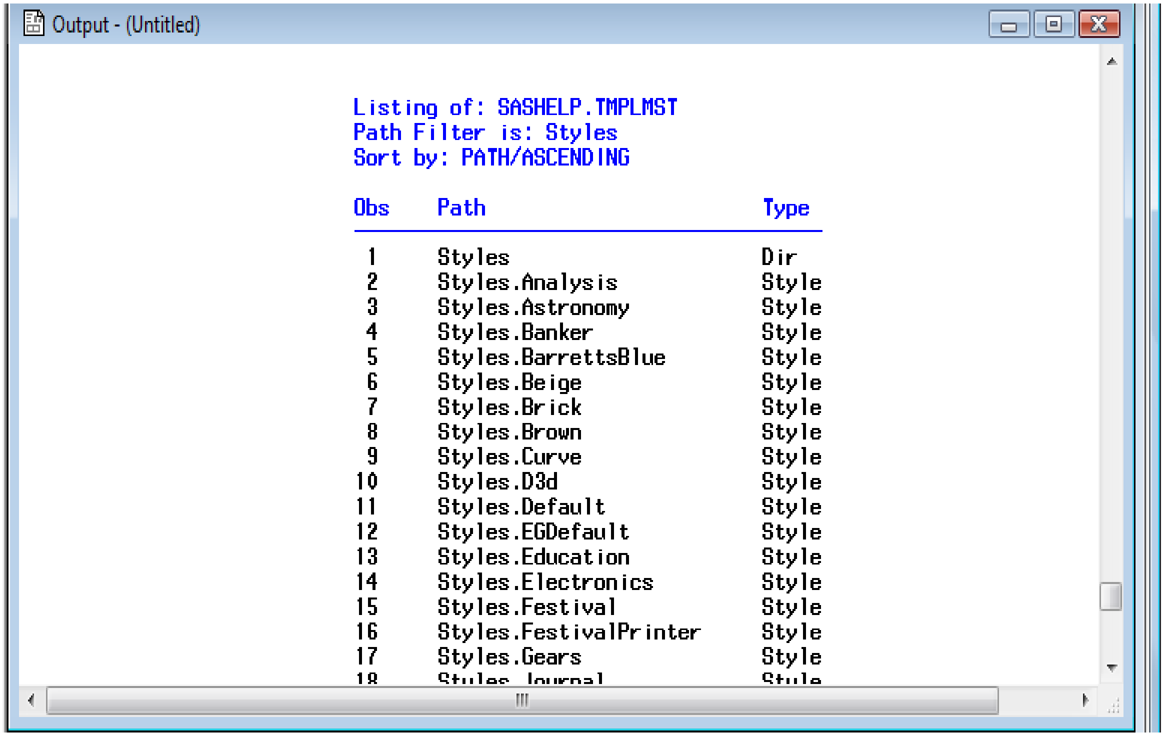
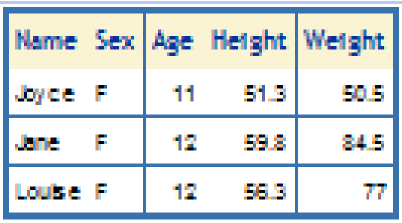
Styles That Ship with the SAS® System

```
proc template;
   list styles;
run;
```



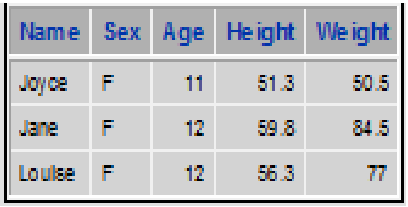
```
Listing of: SASHELP.TMPLMST
Path Filter is: Styles
Sort by: PATH/ASCENDING

Obs    Path                         Type
-----------------------------------------
  1    Styles                       Dir
  2    Styles.Analysis              Style
  3    Styles.Astronomy             Style
  4    Styles.Banker                Style
  5    Styles.BarrettsBlue          Style
  6    Styles.Beige                 Style
  7    Styles.Brick                 Style
  8    Styles.Brown                 Style
  9    Styles.Curve                 Style
 10    Styles.D3d                   Style
 11    Styles.Default               Style
 12    Styles.EGDefault             Style
 13    Styles.Education             Style
 14    Styles.Electronics           Style
 15    Styles.Festival              Style
 16    Styles.FestivalPrinter       Style
 17    Styles.Gears                 Style
 18    Styles.Journal               Style
```



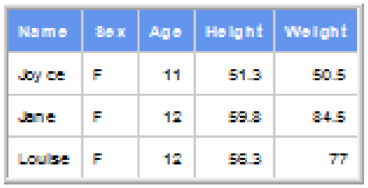
Name	Sex	Age	Height	Weight
Joyce	F	11	51.3	50.5
Jane	F	12	59.8	84.5
Louise	F	12	56.3	77

Normal



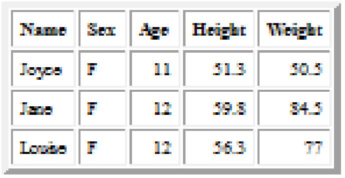
Name	Sex	Age	Height	Weight
Joyce	F	11	51.3	50.5
Jane	F	12	59.8	84.5
Louise	F	12	56.3	77

Default



Name	Sex	Age	Height	Weight
Joyce	F	11	51.3	50.5
Jane	F	12	59.8	84.5
Louise	F	12	56.3	77

SASWeb



Name	Sex	Age	Height	Weight
Joyce	F	11	51.3	50.5
Jane	F	12	59.8	84.5
Louise	F	12	56.3	77

Minimal

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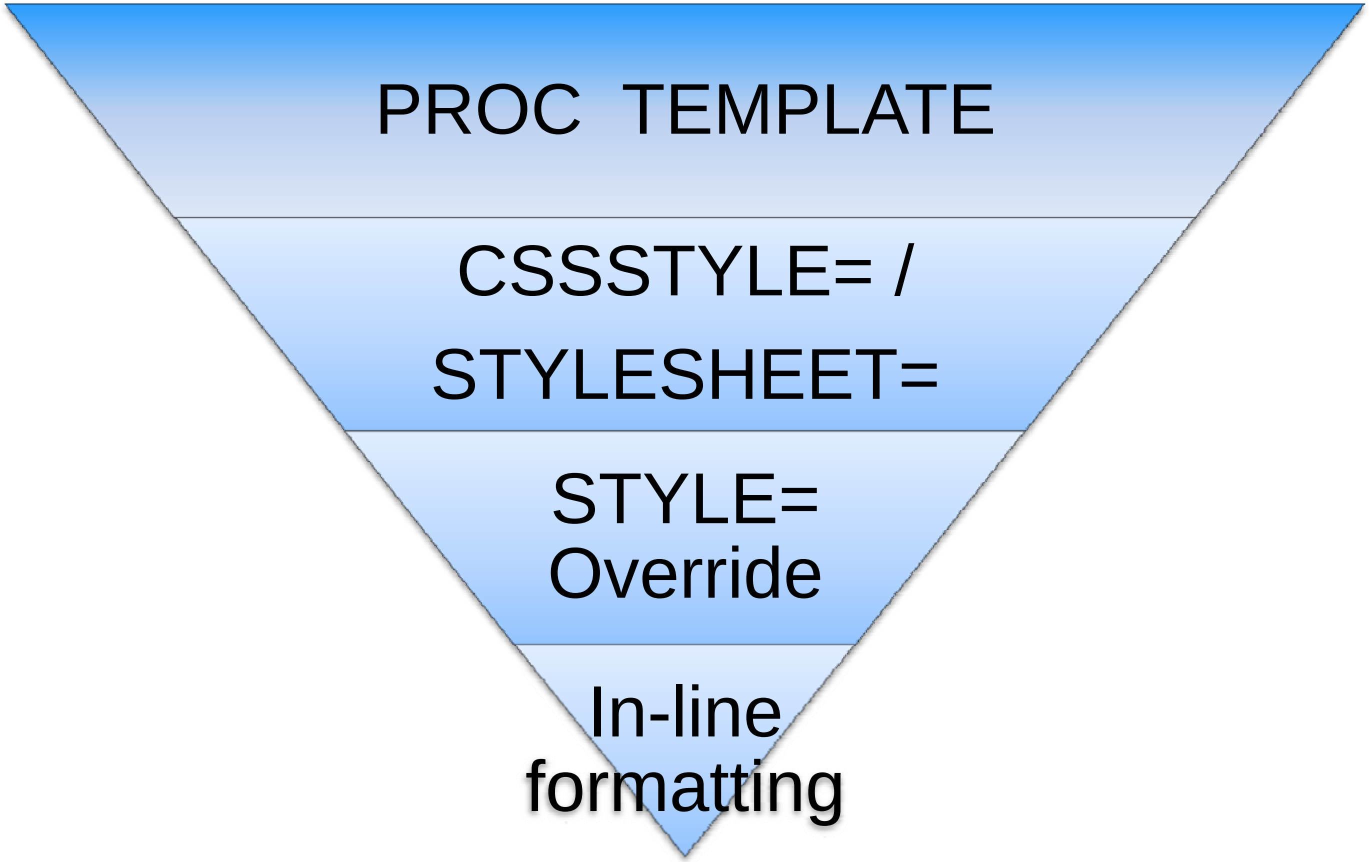
Adding Styles: Methods



PROC TEMPLATE

CSSSTYLE= /

STYLESHEET=

STYLE=
Override

In-line
formatting

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Adding Styles: Style Templates and CSS

- PROC Template creates a SAS file
- CSS does not have the same portability issues
- Both methods allow styles to be generated globally
- CSS is the future of the style support
- Follows W3C style model

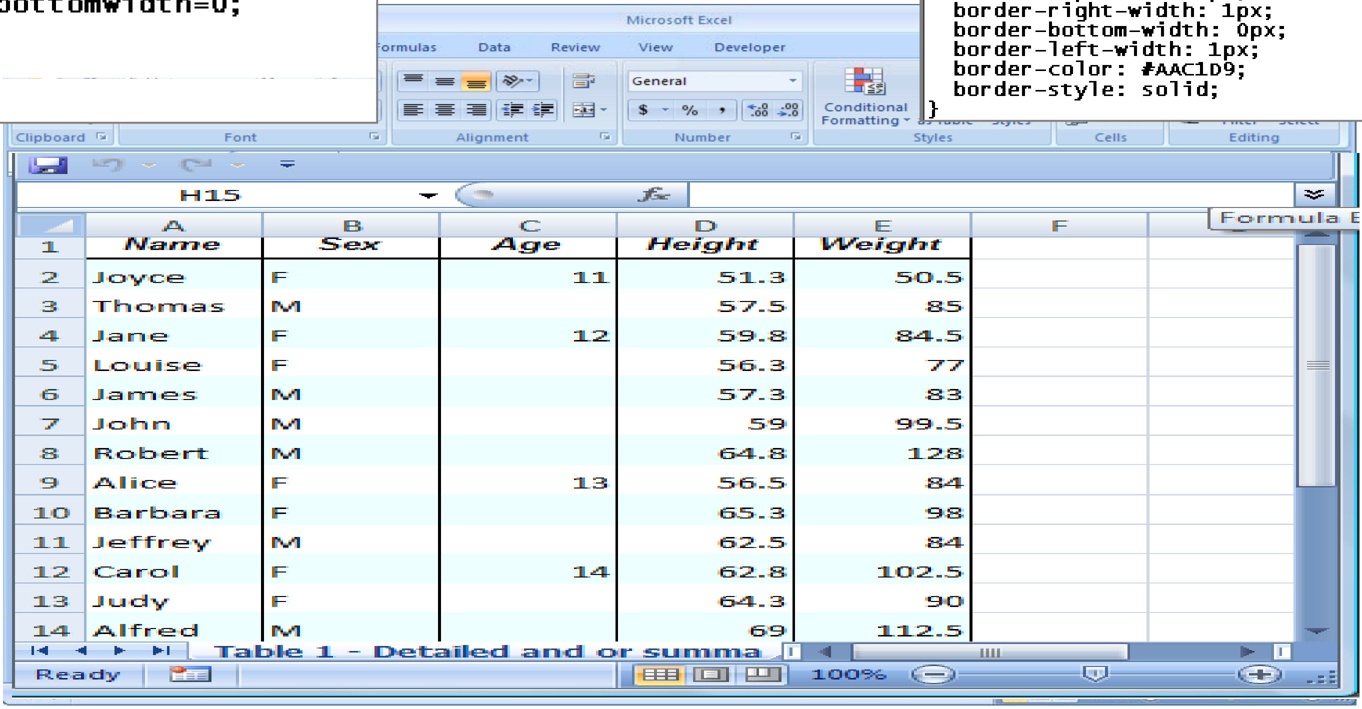
Adding and Modifying Styles *(continued)*

TEMPLATE

```
 proc template;
  define style styles.xlsheet;
   parent=styles.normal;
     class body /
        background=transparent;
     class header, data /
        borderleftwidth=1
        borderrightwidth=1
        bordertopwidth=0
        borderbottomwidth=0;
   end;
run;
```

CSS

```
.body
{
  font-family: 'Trebuchet MS', Helvetica, Arial;
  font-size: 12pt;
  color: #000000;
  background-color: transparent;
  padding: 5px;
  border-spacing: 0px;
  border: 0px solid #000000;
}
.data
{
  border-top-width: 0px;
  border-right-width: 1px;
  border-bottom-width: 0px;
  border-left-width: 1px;
  border-color: #AAC1D9;
  border-style: solid;
}
```



	A	B	C	D	E	F
1	*Name*	*Sex*	*Age*	*Height*	*Weight*	
2	Joyce	F	11	51.3	50.5	
3	Thomas	M		57.5	85	
4	Jane	F	12	59.8	84.5	
5	Louise	F		56.3	77	
6	James	M		57.3	83	
7	John	M		59	99.5	
8	Robert	M		64.8	128	
9	Alice	F	13	56.5	84	
10	Barbara	F		65.3	98	
11	Jeffrey	M		62.5	84	
12	Carol	F	14	62.8	102.5	
13	Judy	F		64.3	90	
14	Alfred	M		69	112.5	

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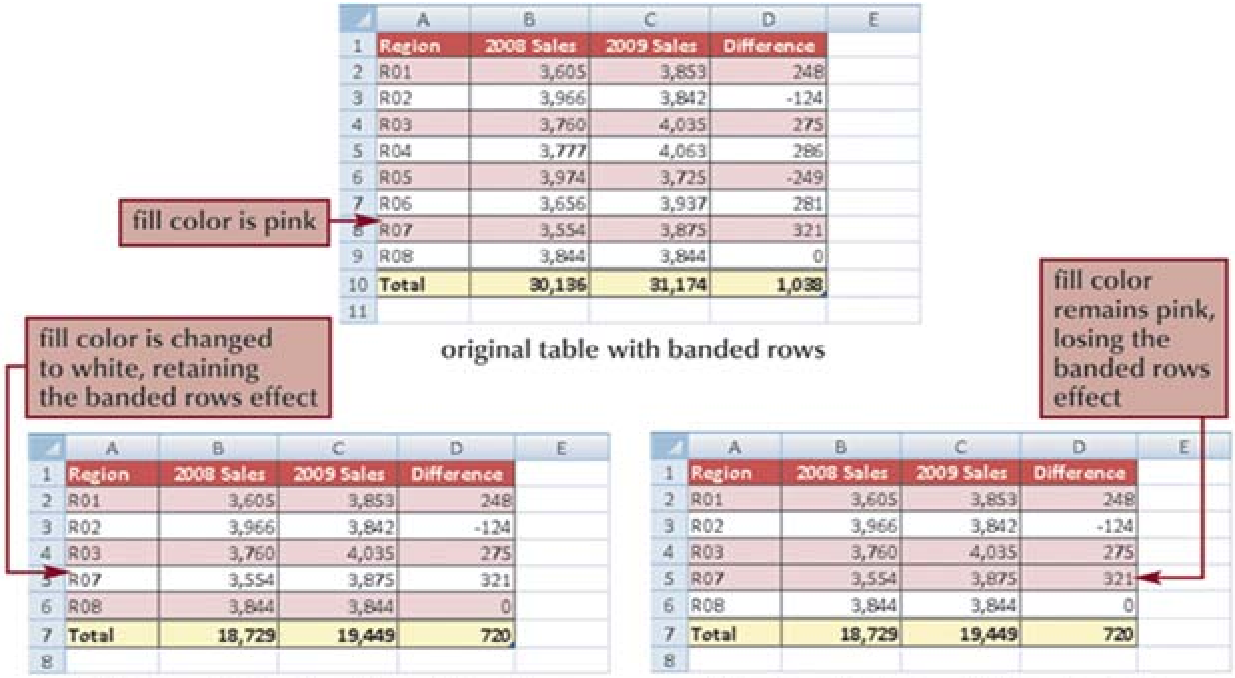
Banding Rows

Banded rows that are created in SAS:



fill color is pink

	A	B	C	D	E
1	Region	2008 Sales	2009 Sales	Difference	
2	R01	3,605	3,853	248	
3	R02	3,966	3,842	-124	
4	R03	3,760	4,035	275	
5	R04	3,777	4,063	286	
6	R05	3,974	3,725	-249	
7	R06	3,656	3,937	281	
8	R07	3,554	3,875	321	
9	R08	3,844	3,844	0	
10	Total	30,136	31,174	1,038	
11					

original table with banded rows

fill color is changed to white, retaining the banded rows effect

fill color remains pink, losing the banded rows effect

	A	B	C	D	E
1	Region	2008 Sales	2009 Sales	Difference	
2	R01	3,605	3,853	248	
3	R02	3,966	3,842	-124	
4	R03	3,760	4,035	275	
5	R07	3,554	3,875	321	
6	R08	3,844	3,844	0	
7	Total	18,729	19,449	720	
8					

table formatted with a table style retains banded rows after rows are deleted

	A	B	C	D	E
1	Region	2008 Sales	2009 Sales	Difference	
2	R01	3,605	3,853	248	
3	R02	3,966	3,842	-124	
4	R03	3,760	4,035	275	
5	R07	3,554	3,875	321	
6	R08	3,844	3,844	0	
7	Total	18,729	19,449	720	
8					

table formatted manually loses banded rows after rows are deleted

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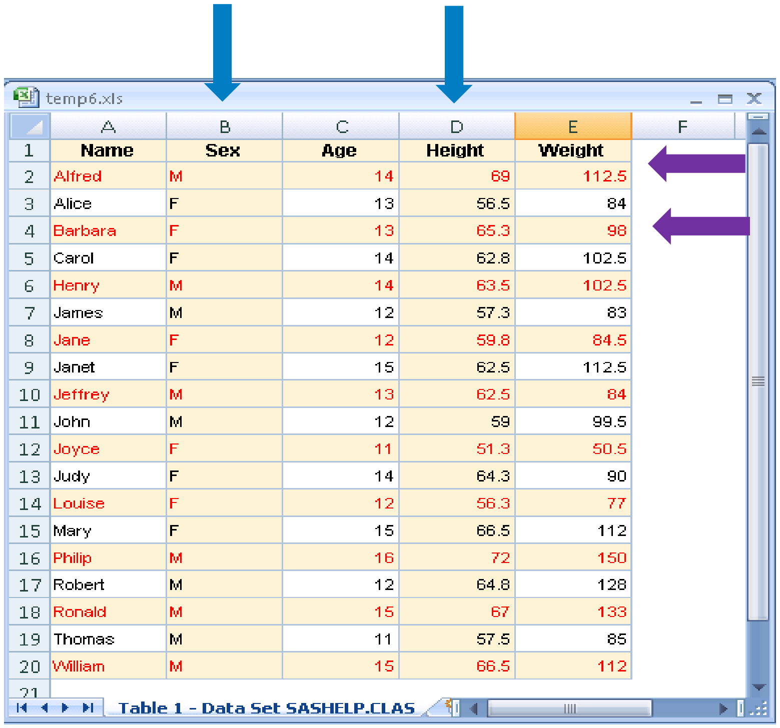
Specifying Band Values

```
<ConditionalFormatting>
<Range>R2C1:R20C6</Range>
<Condition>
   <Value1> MOD(ROW(),2)=0</Value1>
   <Format Style="color:red;
    background-color:tan"/>
</Condition>
<Condition>
   <Value1> MOD(COLUMN(),2)=0</Value1>
   <Format Style="background-color:
tan"/>
</Condition>
</ConditionalFormatting>
```



	A	B	C	D	E	F
1	Name	Sex	Age	Height	Weight	
2	Alfred	M	14	69	112.5	
3	Alice	F	13	56.5	84	
4	Barbara	F	13	65.3	98	
5	Carol	F	14	62.8	102.5	
6	Henry	M	14	63.5	102.5	
7	James	M	12	57.3	83	
8	Jane	F	12	59.8	84.5	
9	Janet	F	15	62.5	112.5	
10	Jeffrey	M	13	62.5	84	
11	John	M	12	59	99.5	
12	Joyce	F	11	51.3	50.5	
13	Judy	F	14	64.3	90	
14	Louise	F	12	56.3	77	
15	Mary	F	15	66.5	112	
16	Philip	M	16	72	150	
17	Robert	M	12	64.8	128	
18	Ronald	M	15	67	133	
19	Thomas	M	11	57.5	85	
20	William	M	15	66.5	112	
21						

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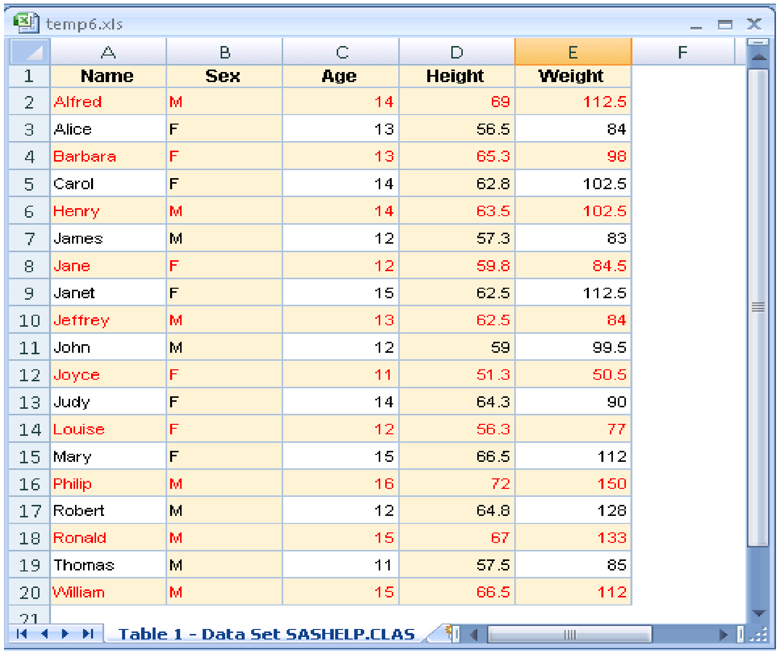
Specifying A Band Value

```
proc template;
   define tagsets.excelxp_mod;
    parent=tagsets.excelxp;
     define event write_conditional_format;
      put "<ConditionalFormatting>" NL;
      put "<Range>";
      put "R2C1:R" $worksheet_row "C" colcount;
      put "</Range>" NL;
      do / if any($options['FBANNER_COLOR_EVEN'],$options['BANNER_COLOR_EVEN']);
         put "<Condition>" NL;
         put "<Value1> MOD(ROW(),2)=0</Value1>" NL;
         put "<Format Style=""";
         put  "color:" $options['FBANNER_COLOR_EVEN'];
         put ";" background-color" $options['BANNER_COLOR_EVEN'];
         put """" "/>" NL;
         put "</Condition>" NL;
      done;
   ...more SAS statements...
   end;
   define event worksheet_head_end;
    . . .more SAS statements. . .
   trigger write_conditional_format;
   trigger write_autofilter;
 end;

run;
```

Specifying Band Values

```
ods tagsets.excelxp_mod file="temp.xml"
options(fbanner_color_even="red"
        banner_color_odd="tan"
        col_color_even="tan")
        style=normal;

     proc print data=sashelp.class;
     run;

ods tagsets.excelxp_mod close;
```



Name	Sex	Age	Height	Weight
Alfred	M	14	69	112.5
Alice	F	13	56.5	84
Barbara	F	13	65.3	98
Carol	F	14	62.8	102.5
Henry	M	14	63.5	102.5
James	M	12	57.3	83
Jane	F	12	59.8	84.5
Janet	F	15	62.5	112.5
Jeffrey	M	13	62.5	84
John	M	12	59	99.5
Joyce	F	11	51.3	50.5
Judy	F	14	64.3	90
Louise	F	12	56.3	77
Mary	F	15	66.5	112
Philip	M	16	72	150
Robert	M	12	64.8	128
Ronald	M	15	67	133
Thomas	M	11	57.5	85
William	M	15	66.5	112

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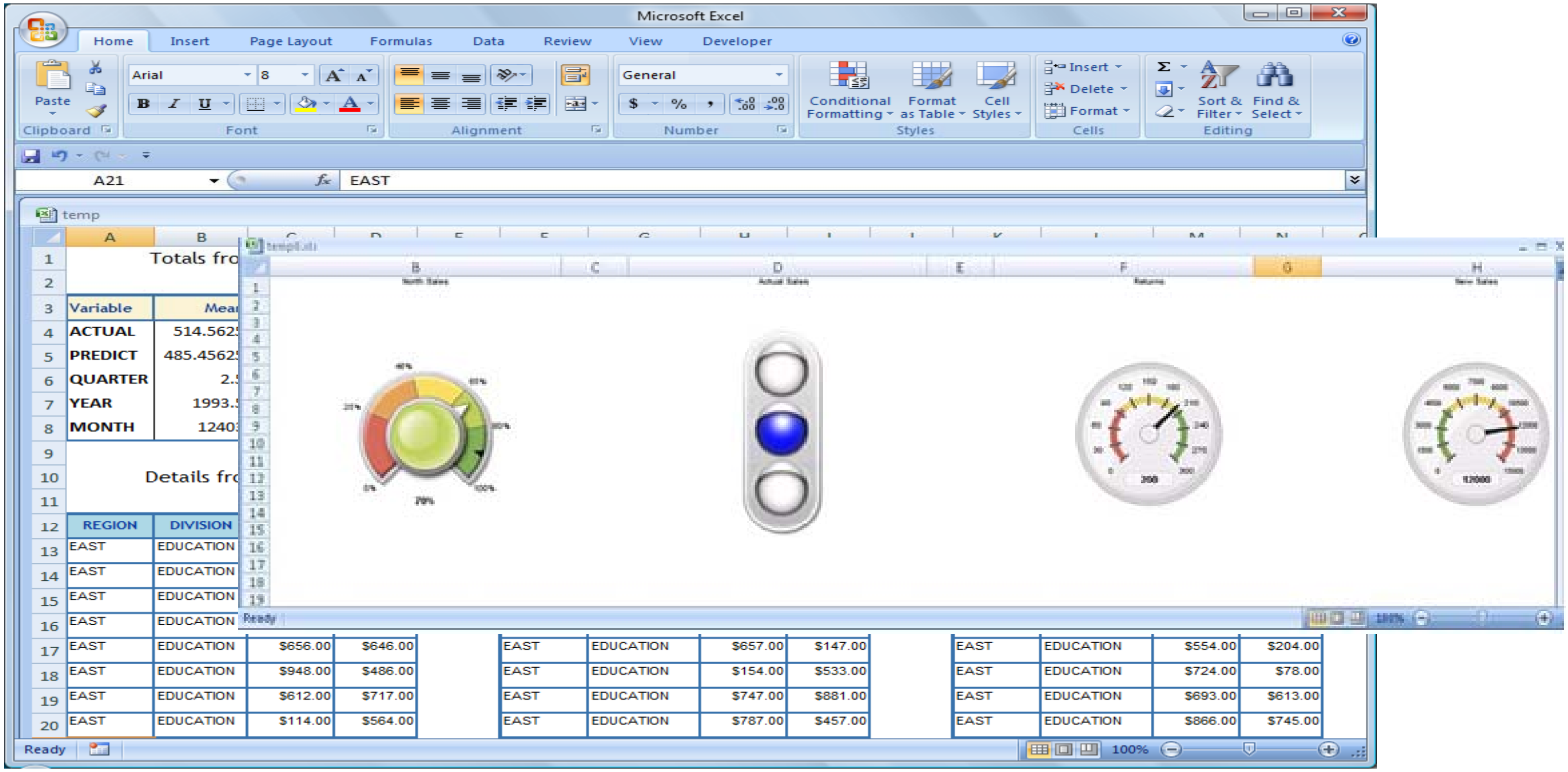
Paneling Tables or Graphs in a Worksheet



A21 EAST

Totals fro

Variable	Mea
ACTUAL	514.562
PREDICT	485.4562
QUARTER	2.
YEAR	1993.
MONTH	1240

Details fro

REGION	DIVISION										
EAST	EDUCATION										
EAST	EDUCATION										
EAST	EDUCATION										
EAST	EDUCATION										
EAST	EDUCATION	$656.00	$646.00	EAST	EDUCATION	$657.00	$147.00	EAST	EDUCATION	$554.00	$204.00
EAST	EDUCATION	$948.00	$486.00	EAST	EDUCATION	$154.00	$533.00	EAST	EDUCATION	$724.00	$78.00
EAST	EDUCATION	$612.00	$717.00	EAST	EDUCATION	$747.00	$881.00	EAST	EDUCATION	$693.00	$613.00
EAST	EDUCATION	$114.00	$564.00	EAST	EDUCATION	$787.00	$457.00	EAST	EDUCATION	$866.00	$745.00

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Paneling Tables or Graphics: Syntax

```
ods tagsets.msoffice2k_x file="c:\temp.xls"
                  style=normal options( panelcols="3");
proc means data=sashelp.prdsale mean min max;
   title "Totals from Canada“;
   where country="CANADA";
run;
...more code...
ods tagsets.msoffice2k_x options(panelcols="3");
proc report data=sashelp.prdsale(obs=10) nowd
            style(header)={background=lightblue};
   column region division actual predict;
   where country="CANADA";
   title "Details from Canada";

run;
     ..more code...
ods tagsets.msoffice2k_x close;
```

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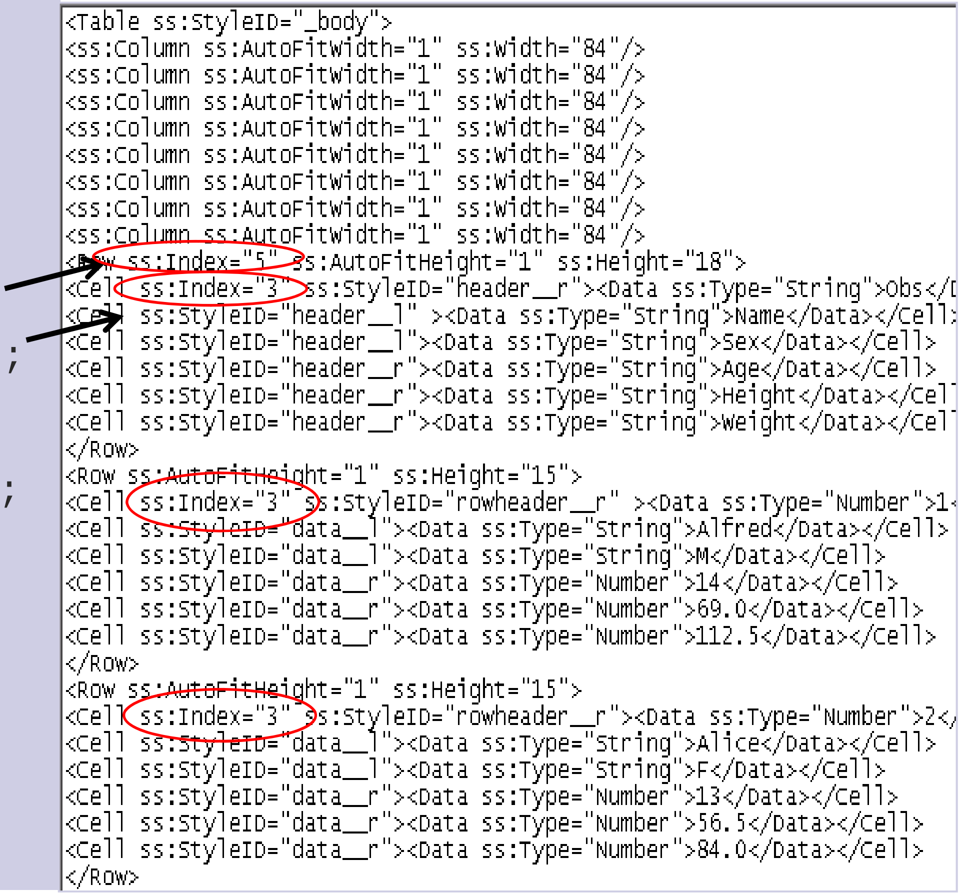
Placing Tables on the Worksheet (ExcelXP)

```
ods tagsets.excelxp_mod
    file="c:\temp.xml"
    options(worksheet_source="5,3");
proc print data=sashelp.class(obs=5);
run;
ods tagsets.excelxp_mod
    options(worksheet_source="14,3");
proc print data=sashelp.class;
run;
ods tagsets.excelxp_mod close;
```



```
<Table ss:StyleID="_body">
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<ss:Column ss:AutoFitWidth="1" ss:Width="84"/>
<Row ss:Index="5" ss:AutoFitHeight="1" ss:Height="18">
<Cell ss:Index="3" ss:StyleID="header__r"><Data ss:Type="String">Obs</D
<Cell ss:StyleID="header__l" ><Data ss:Type="String">Name</Data></Cell>
<Cell ss:StyleID="header__l"><Data ss:Type="String">Sex</Data></Cell>
<Cell ss:StyleID="header__r"><Data ss:Type="String">Age</Data></Cell>
<Cell ss:StyleID="header__r"><Data ss:Type="String">Height</Data></Cel
<Cell ss:StyleID="header__r"><Data ss:Type="String">Weight</Data></Cel
</Row>
<Row ss:AutoFitHeight="1" ss:Height="15">
<Cell ss:Index="3" ss:StyleID="rowheader__r" ><Data ss:Type="Number">1<
<Cell ss:StyleID="data__l"><Data ss:Type="String">Alfred</Data></Cell>
<Cell ss:StyleID="data__l"><Data ss:Type="String">M</Data></Cell>
<Cell ss:StyleID="data__r"><Data ss:Type="Number">14</Data></Cell>
<Cell ss:StyleID="data__r"><Data ss:Type="Number">69.0</Data></Cell>
<Cell ss:StyleID="data__r"><Data ss:Type="Number">112.5</Data></Cell>
</Row>
<Row ss:AutoFitHeight="1" ss:Height="15">
<Cell ss:Index="3" ss:StyleID="rowheader__r"><Data ss:Type="Number">2</
<Cell ss:StyleID="data__l"><Data ss:Type="String">Alice</Data></Cell>
<Cell ss:StyleID="data__l"><Data ss:Type="String">F</Data></Cell>
<Cell ss:StyleID="data__r"><Data ss:Type="Number">13</Data></Cell>
<Cell ss:StyleID="data__r"><Data ss:Type="Number">56.5</Data></Cell>
<Cell ss:StyleID="data__r"><Data ss:Type="Number">84.0</Data></Cell>
</Row>
```

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Placing Tables on the Worksheet (ExcelXP)

```
Proc template;
 define tagsets tagsets.excelxp_mod;
  parent=tagsets.excelxp;
   define event row_start;
     put "<Row ";
     putq "ss:Index=" scan($options['WORKSHEET_LOCATION'],1)/ if $worksheet_row=1;
      ..more code...
   end;
   define event cell_start;
    start:
     ..more code...
    finish:
     break /if ^$$cell_start;
     open row;
     put "<Cell";
     putq "ss:Index=" scan($Options['WORKSHEET_LOCATION'],2)/ if cmp(colstart,"1");
      ..more code...
   end;
 run;
```

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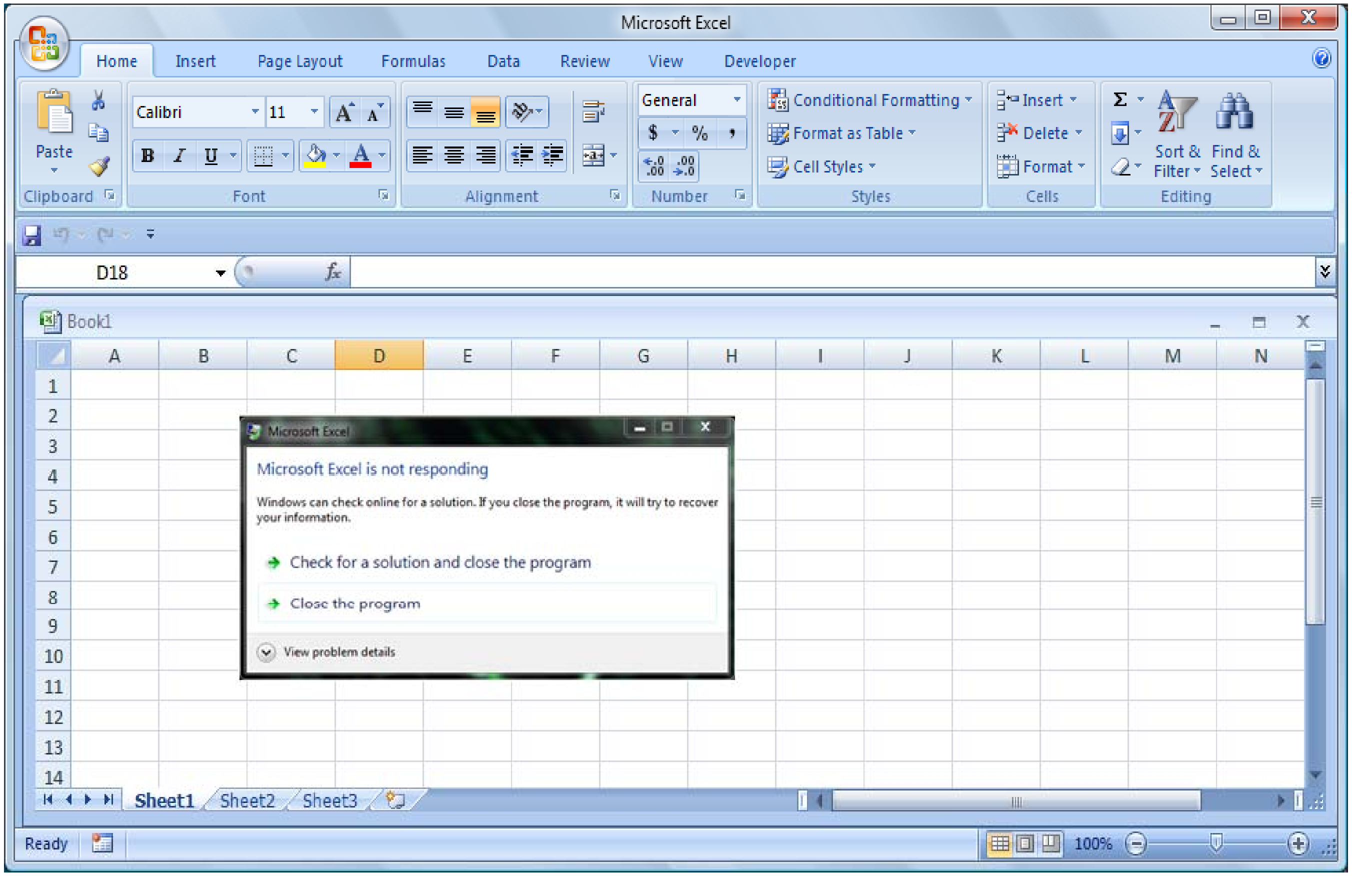
The Perfect Marriage: Happiness Brings Increase



Microsoft Excel

Microsoft Excel is not responding

Windows can check online for a solution. If you close the program, it will try to recover your information.

→ Check for a solution and close the program

→ Close the program

View problem details

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Tips for Handling File Size Issues

- ODS file formats and Microsoft Excel
- File formats in Excel 2007 and greater releases
- Things to watch out for when specifying the below formats

Extension	**Type of File**	**Excel Version**	**Ext Number**
XLSX	Open compressed XML	2007	51
XLSB	Excel 2007 binary file	2007	50
XLSM	Excel 2007 file (includes Excel macros)	2007	52
XLS	Excel 2003 binary file	97-2003	-4143

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Tips for Handling File Size Issues

- Have at least version 1.70 of the ExcelXP tagset installed
- The ODS CSV destination creates the smallest files.
- DDE and the sample TableEditor tagset can resave files in various formats.
- Visual Basic scripting to resave files in addition to performing other tasks.

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Tips for Handling Files Size Issues: The TableEditor Tagset

```
ods path(prepend) work.templat(update);

filename temp url 'http://support.sas.com/rnd/base/ods/odsmarkup/
                   tableeditor/tableeditor.tpl';
%include temp;

ods tagsets.tableeditor file="%sysfunc(getoption(work))\temp.html"
                        options(update_target="c:\\temp\\temp.xml"
                                excel_save_file="c:\\temp\\test.xlsx"
                                file_format="xlsx"
                                open_excel="no"
                                auto_excel="yes");
data _null_;
   file print;
   put "Save as Excel";
run;
ods tagsets.tableeditor close;
```

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Tips for Handling Files Size Issues: Dynamic Data Exchange

```
options noxwait noxsync;
X ‘C:\Program Files\Microsoft Office\Office12\Excel.exe’;
filename cmds dde 'excel|system';

data  null ;
   file cmds;
   x=sleep(10);
   put "[open(""C:\temp.xml"")]";
   put '[ERROR("FALSE")]';
   put "[SAVE.AS(""C:\temp.xlsx"" ,51)]";
   x=sleep(2);
   put '[close("false")]';
 run;
```

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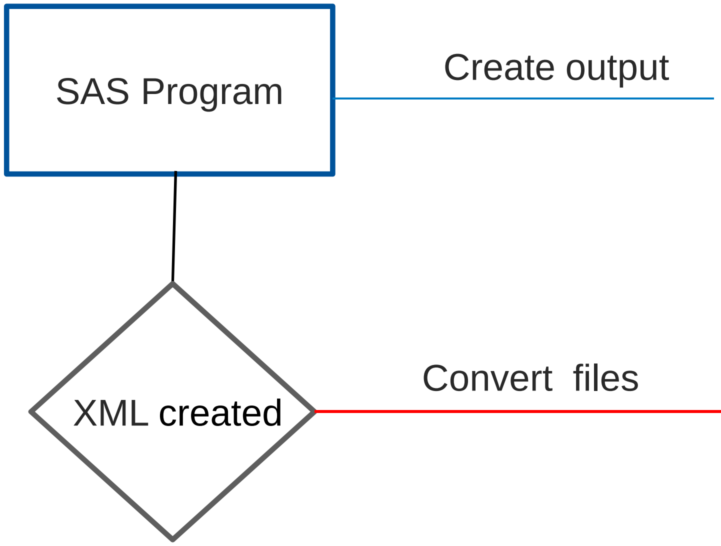
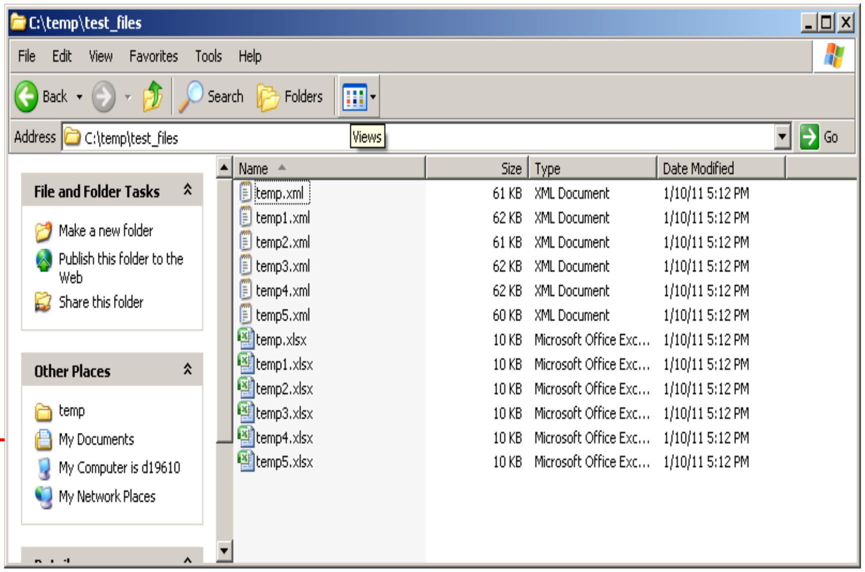
Tips for Handling File Size Issues: Visual Basic Scripting


SAS Program

Create output

XML created

Convert files



Name	Size	Type	Date Modified
temp.xml	61 KB	XML Document	1/10/11 5:12 PM
temp1.xml	62 KB	XML Document	1/10/11 5:12 PM
temp2.xml	61 KB	XML Document	1/10/11 5:12 PM
temp3.xml	62 KB	XML Document	1/10/11 5:12 PM
temp4.xml	62 KB	XML Document	1/10/11 5:12 PM
temp5.xml	60 KB	XML Document	1/10/11 5:12 PM
temp.xlsx	10 KB	Microsoft Office Exc...	1/10/11 5:12 PM
temp1.xlsx	10 KB	Microsoft Office Exc...	1/10/11 5:12 PM
temp2.xlsx	10 KB	Microsoft Office Exc...	1/10/11 5:12 PM
temp3.xlsx	10 KB	Microsoft Office Exc...	1/10/11 5:12 PM
temp4.xlsx	10 KB	Microsoft Office Exc...	1/10/11 5:12 PM
temp5.xlsx	10 KB	Microsoft Office Exc...	1/10/11 5:12 PM

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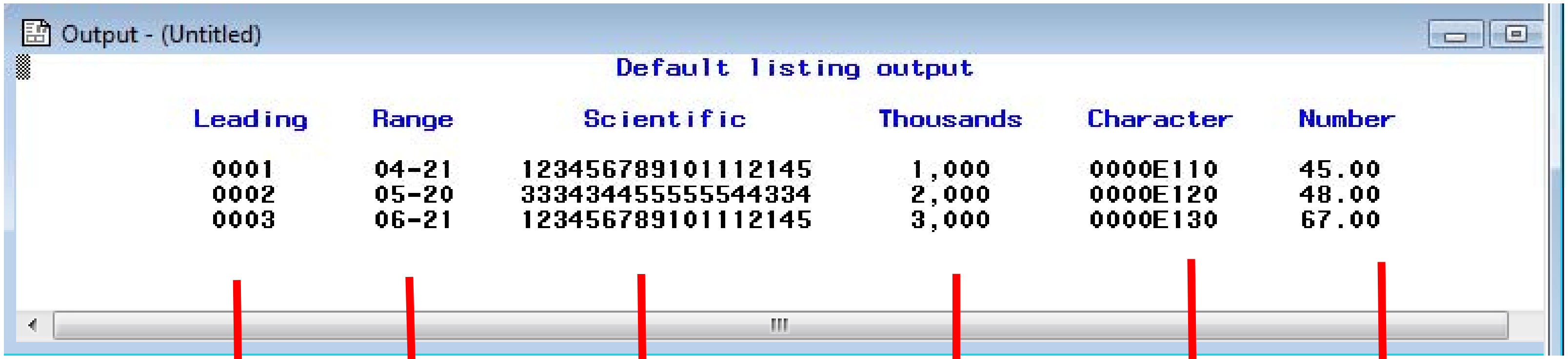
Cell-Formatting Issues



```
                              Default listing output

   Leading     Range        Scientific          Thousands     Character     Number

    0001       04-21     12345678910111 2145      1,000       0000E110      45.00
    0002       05-20     3334344555555 44334      2,000       0000E120      48.00
    0003       06-21     12345678910111 2145      3,000       0000E130      67.00
```

Leading	Range	Scientific	Thousands	Character	Number
1	21-Apr	1.23457E+17	1000	0.00E+00	45
2	20-May	3.33434E+17	2000	0.00E+00	48
3	21-Jun	1.23457E+17	3000	0.00E+00	67

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Cell-Formatting Issues: Custom Format Operators

Character	Description
0	Pads the value with zeros.
#	Does not display extra zeros.
?	Leaves a space for insignificant zeros.
. (period)	Displays decimal number.
%	Multiplies by 100 and displays the value as a percentage.
, (comma)	Uses a thousands separator.
Text Code	**Description**
\character	Displays the character that you specify.
"text"	Displays the value as text.
*	Repeats a character to fill the format.
_ (underscore)	Skips the width of the next character.
@	Is a text placeholder.
Date Code	**Description**
M/D/YYYY	Formats a data as Month/Day/Year.
Miscellaneous	**Description**
[BLACK], [BLUE],…[COLOR *n*]	Display the characters in the specified colors. *n* is a value from 1 to 56 .

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Cell-Formatting Issues: Formatting and ODS Destinations

Destination	Attribute	Parameter	Excel Version
ExcelXP	TAGATTR=	format:	Excel 2002 +
MSOffice2K / HTML	HTMLSTYLE=	mso-number-format:	Excel 2000 +
HTML3	HTMLSTYLE/ HTMLCLASS	mso-number-format:	Excel 97+
CSV	N/A		

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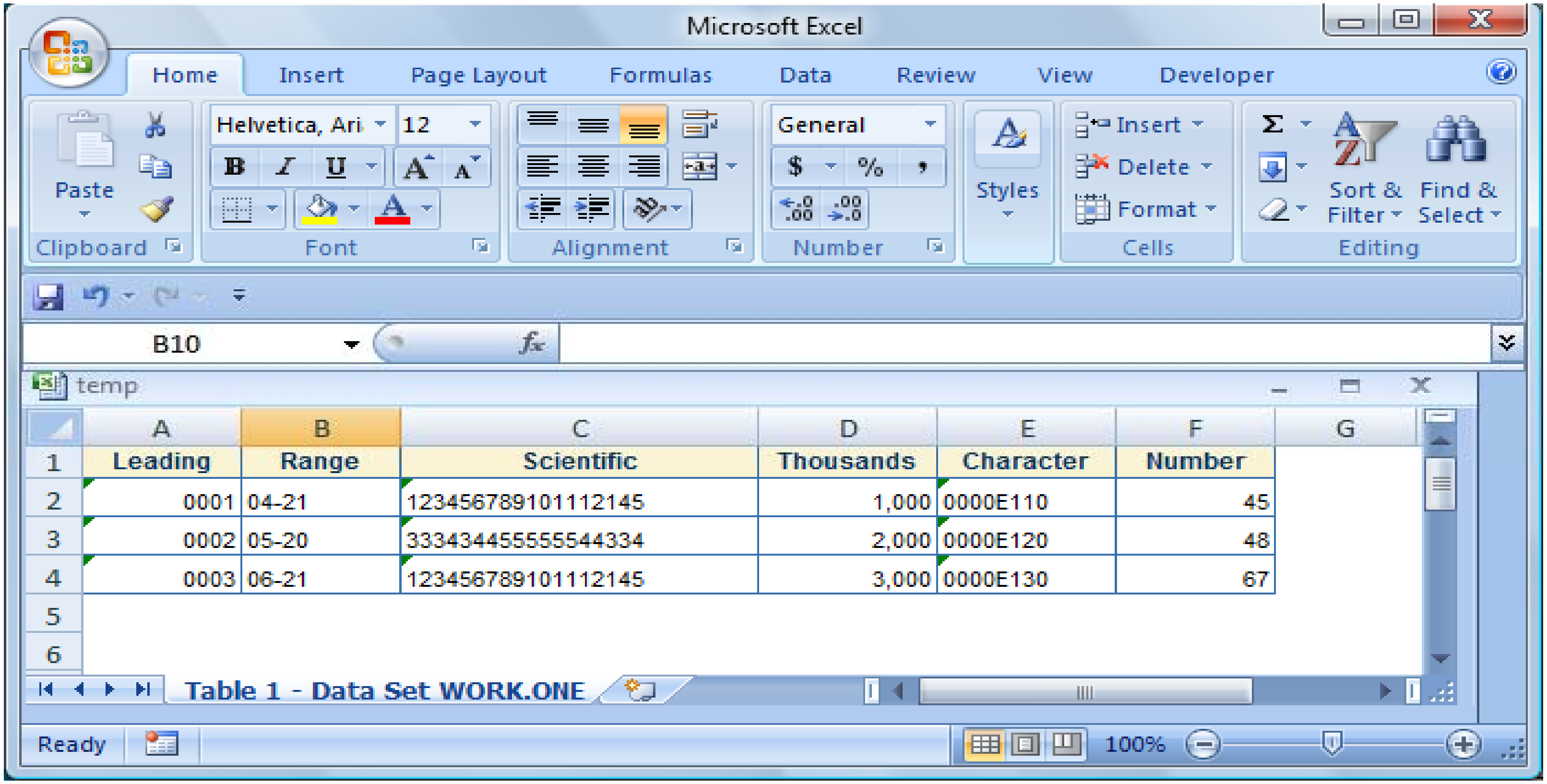
Cell-Formatting Issues: Formatting and ODS Destinations



	A	B	C	D	E	F	G
1	Leading	Range	Scientific	Thousands	Character	Number	
2	0001	04-21	123456789101112145	1,000	0000E110	45	
3	0002	05-20	333434455555544334	2,000	0000E120	48	
4	0003	06-21	123456789101112145	3,000	0000E130	67	
5							
6							

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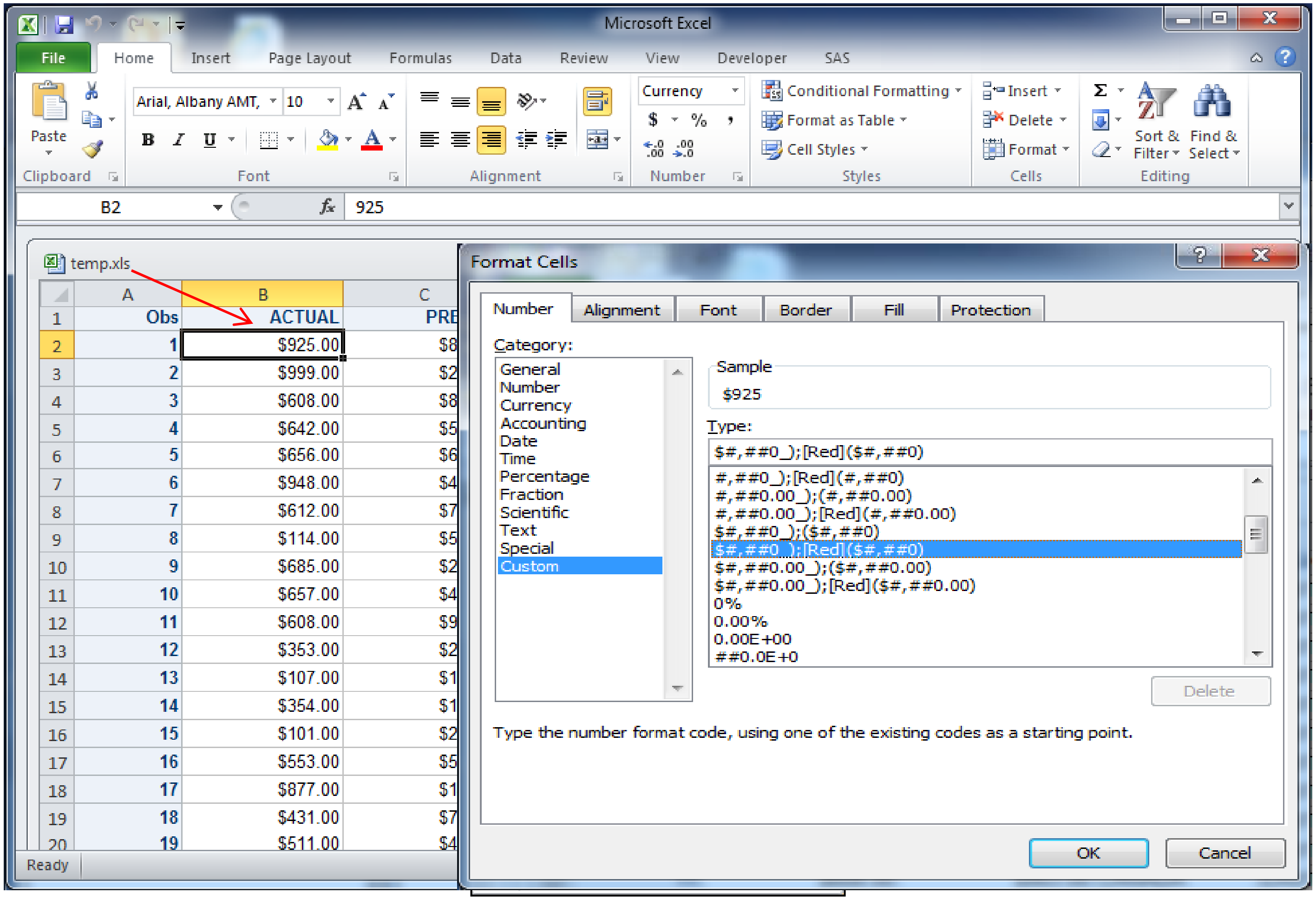
Cell-Formatting Issues: Formatting and ODS Destinations



B2 925

	A	B	C
1	Obs	ACTUAL	PRE
2	1	$925.00	$8
3	2	$999.00	$2
4	3	$608.00	$8
5	4	$642.00	$5
6	5	$656.00	$6
7	6	$948.00	$4
8	7	$612.00	$7
9	8	$114.00	$5
10	9	$685.00	$2
11	10	$657.00	$4
12	11	$608.00	$9
13	12	$353.00	$2
14	13	$107.00	$1
15	14	$354.00	$1
16	15	$101.00	$2
17	16	$553.00	$5
18	17	$877.00	$1
19	18	$431.00	$7
20	19	$511.00	$4

Category: Custom

Sample: $925

Type: $#,##0_);[Red]($#,##0)

```
#,##0_);[Red](#,##0)
#,##0.00_);(#,##0.00)
#,##0.00_);[Red](#,##0.00)
$#,##0_);($#,##0)
$#,##0_);[Red]($#,##0)
$#,##0.00_);($#,##0.00)
$#,##0.00_);[Red]($#,##0.00)
0%
0.00%
0.00E+00
##0.0E+0
```

Type the number format code, using one of the existing codes as a starting point.

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Exporting Output to Microsoft Word: The RTF Destination

```
ods rtf file="c:\temp.rtf" startpage=no;

proc print data=sashelp.class(obs=5);
   title "Output using the RTF destination";
run;

proc print data=sashelp.class(obs=5);
run;

ods rtf close;
```

(continues)

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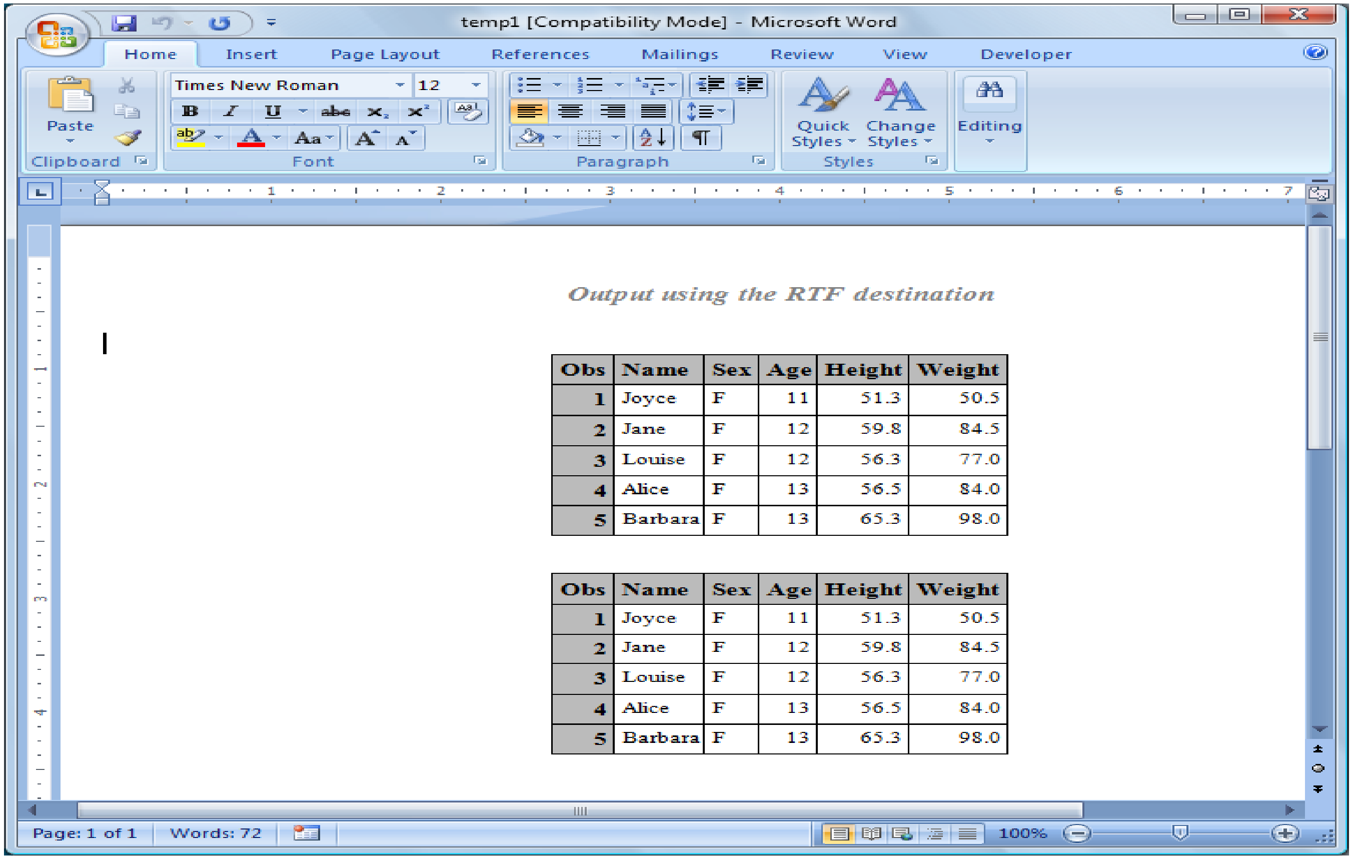
Exporting Output to Microsoft Word: The RTF Destination *(continued)*



Output using the RTF destination

Obs	Name	Sex	Age	Height	Weight
1	Joyce	F	11	51.3	50.5
2	Jane	F	12	59.8	84.5
3	Louise	F	12	56.3	77.0
4	Alice	F	13	56.5	84.0
5	Barbara	F	13	65.3	98.0

Obs	Name	Sex	Age	Height	Weight
1	Joyce	F	11	51.3	50.5
2	Jane	F	12	59.8	84.5
3	Louise	F	12	56.3	77.0
4	Alice	F	13	56.5	84.0
5	Barbara	F	13	65.3	98.0

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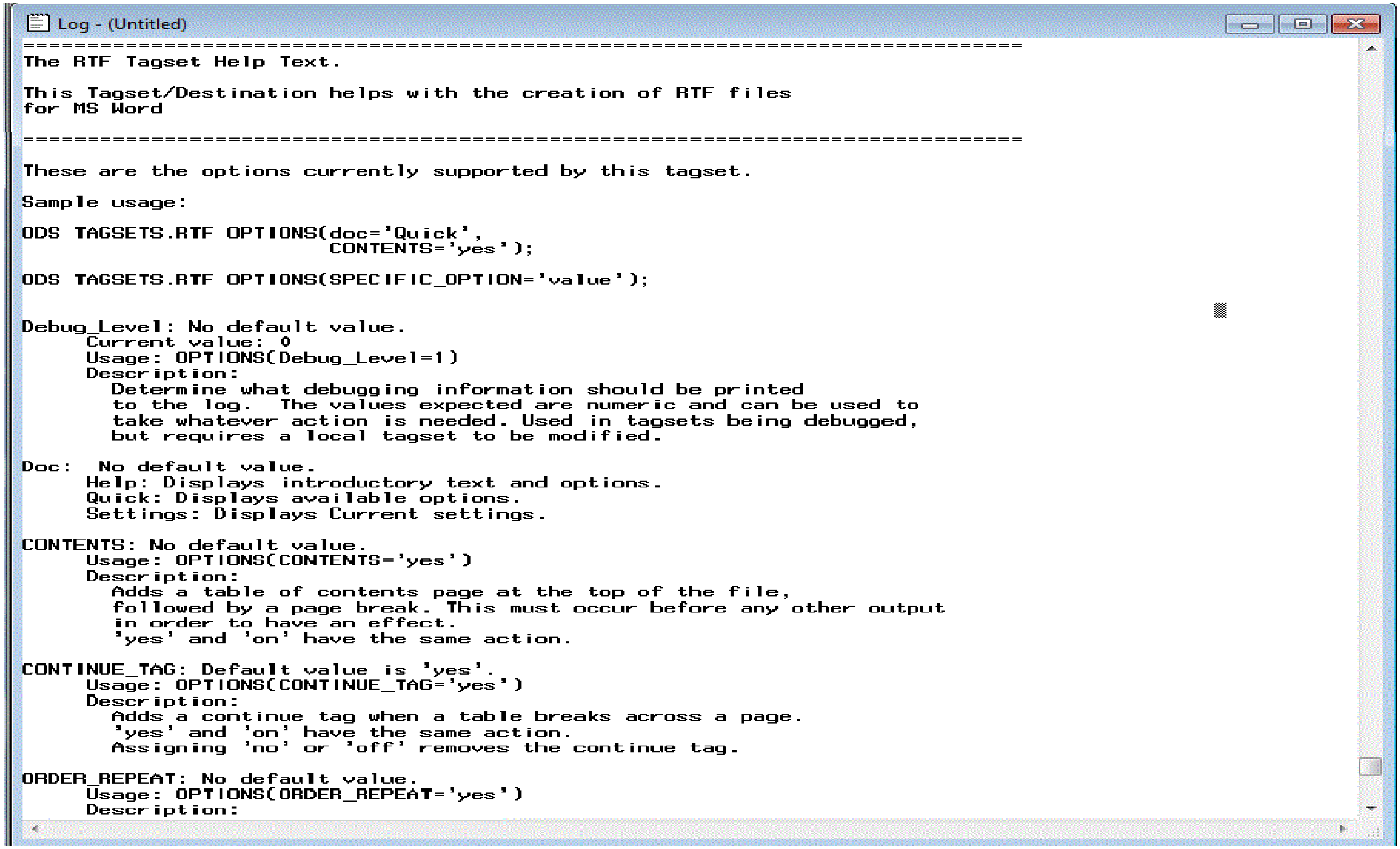
Exporting Output to Microsoft Word: The Tagsets.RTF Destination



```
===============================================================================
The RTF Tagset Help Text.

This Tagset/Destination helps with the creation of RTF files
for MS Word

===============================================================================

These are the options currently supported by this tagset.

Sample usage:

ODS TAGSETS.RTF OPTIONS(doc='Quick',
                        CONTENTS='yes');

ODS TAGSETS.RTF OPTIONS(SPECIFIC_OPTION='value');


Debug_Level: No default value.
     Current value: 0
     Usage: OPTIONS(Debug_Level=1)
     Description:
       Determine what debugging information should be printed
       to the log.  The values expected are numeric and can be used to
       take whatever action is needed. Used in tagsets being debugged,
       but requires a local tagset to be modified.

Doc:  No default value.
     Help: Displays introductory text and options.
     Quick: Displays available options.
     Settings: Displays Current settings.

CONTENTS: No default value.
     Usage: OPTIONS(CONTENTS='yes')
     Description:
       Adds a table of contents page at the top of the file,
       followed by a page break. This must occur before any other output
       in order to have an effect.
       'yes' and 'on' have the same action.

CONTINUE_TAG: Default value is 'yes'.
     Usage: OPTIONS(CONTINUE_TAG='yes')
     Description:
       Adds a continue tag when a table breaks across a page.
       'yes' and 'on' have the same action.
       Assigning 'no' or 'off' removes the continue tag.

ORDER_REPEAT: No default value.
     Usage: OPTIONS(ORDER_REPEAT='yes')
     Description:
```

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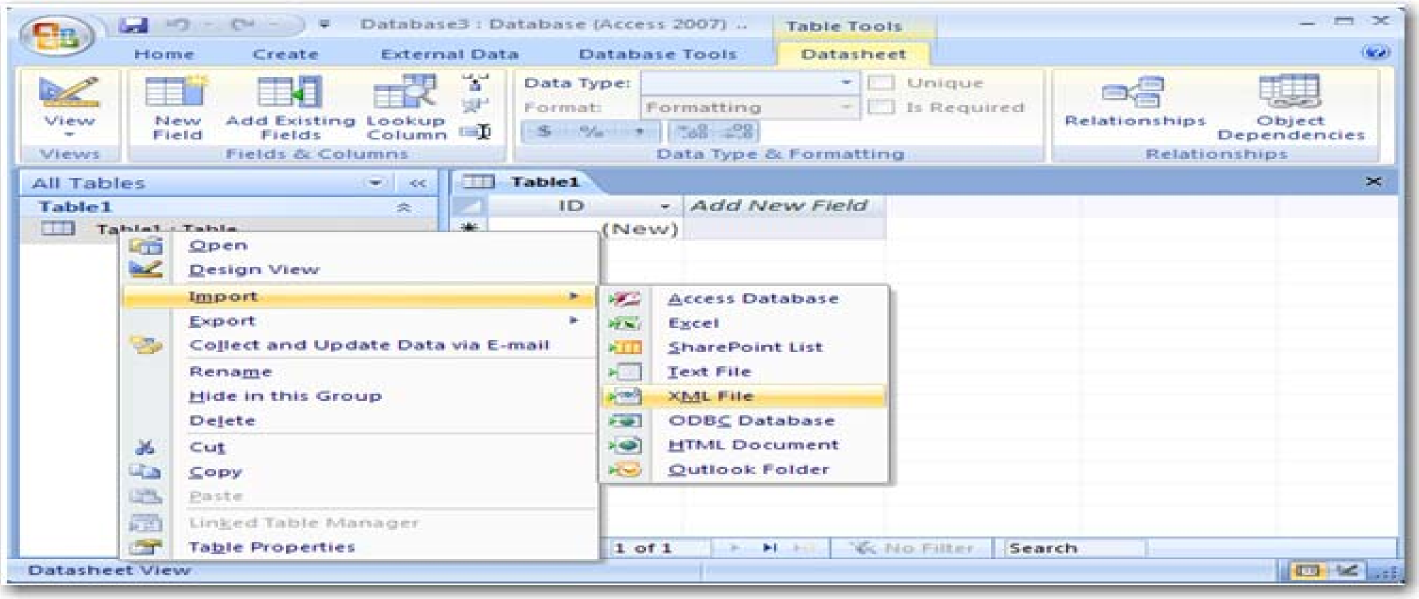
Exporting Output to Microsoft Access

```
libname temp xml "c:\temp.xml" xmltype=msaccess
                               xmlmeta=schemadata;
data temp,class;
   set sashelp.class;
run;
```



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The PowerPoint Destination

- The PowerPoint destination is new for SAS 9.4
- Generates output in the native 2010 format (.PPTX)
- Generates slides with both graphics, tables and text
- Can be enhanced with the new PROC ODSTEXT and ODSLIST procedure
- One of the first destinations to use the new tagset format

Conclusion

This presentation demonstrated how to

- generate styles effectively
- create presentation enhancements for Excel
- export output to Microsoft Word.

With these skills, you can develop compelling spreadsheets and applications that are both useful and aesthetically pleasing!

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Helpful Links

ODS Markup
http://support.sas.com/rnd/base/topics/odsmarkup.html

BASE R&D http://support.sas.com/rnd/base

“SAS 9.1 MS Office Integration”
http://support.sas.com/rnd/base/topics/templateFAQ/office91.pdf

Sample Download
http://www.sas.com/techsup/download/blind/sgf36.zip

“The Perfect Marriage: The SAS® Output Delivery System (ODS) and Microsoft Office”
http://support.sas.com/resources/papers/proceedings11/250-2011.pdf

“A First Look at the ODS Destination for PowerPoint”
support.sas.com/resources/papers/proceedings13/041-2013.pdf

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Contact Information

EMAIL: Chevell.Parker@sas.com

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