

GET THE MOST OUT OF THE OUTPUT DELIVERY SYSTEM FOR FANTASTIC REPORTING

CHEVELL PARKER, SAS INSTITUTE INC.



Overview

- Enhance reporting using HTML and Web pages
- What you should know about exporting to Excel
- Enhancing reports using styles and other ODS tools

Enhance Reporting using HTML and Web pages

- Mobile technology and Web pages
- Tips for writing to the body of an email
- Enhancing output using the TableEditor tagset
- Doing more with the new HTML5 destination

Generating Output on Mobile Devices

- Output needs to be accessible from a desktop as well as from mobile devices.
- Pages need to render on all devices efficiently with a consistent look and feel.
- Pages and images should load quickly on all mobile browsers.
- The viewport and screen sizes on mobile devices have limitations.
- The display format needs to account for phones and tablets that use dual orientation.
- Fonts that you can access on a desktop machine are not always available on mobile devices.

Optimizing Mobile Output



The Viewport <meta> Tag

- Enables you to set up a web page for cross-device layout
- Is used by most major browsers (it was introduced originally by Apple Inc.)
- Is the single-most important change for mobile devices
- Should be added for devices that are less than 980px in width
- Is added to the header of the HTML file

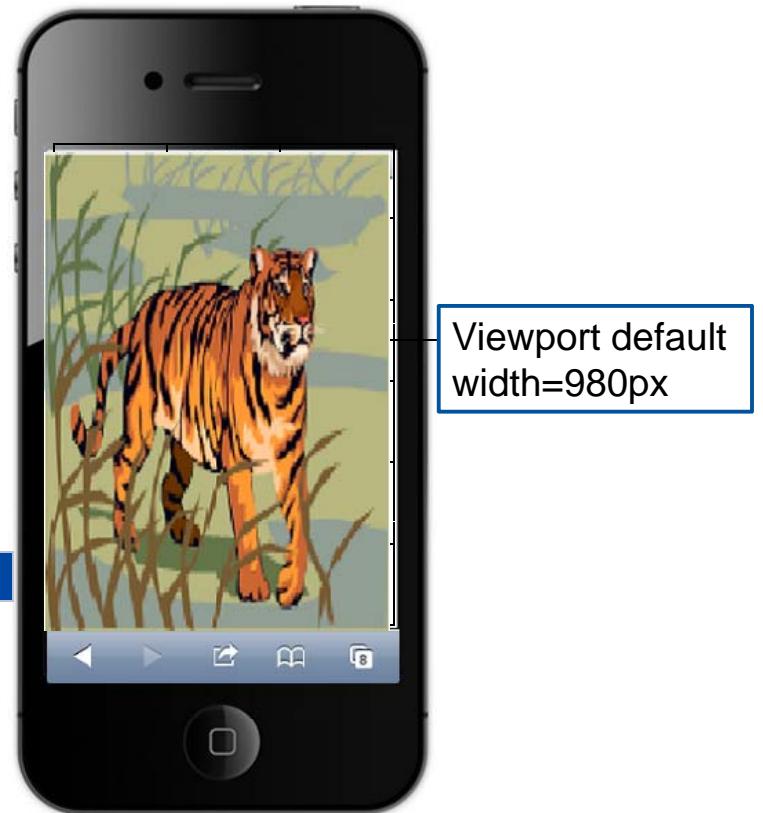
Optimizing Mobile Output *(continued)*

Setting the Viewport

```
<meta name="viewport" content="width=320">
```

```
<meta name="viewport" content="device-width">
```

```
<meta name="viewport" content="initial-scale=1">
```



Optimizing Mobile Output *(continued)*



```
ods html file="temp.html"
      metatext='name="viewport"
      content="width=device-width";

proc print data=sashelp.class;
  title "ODS Output Using
        Viewport Information";
run;

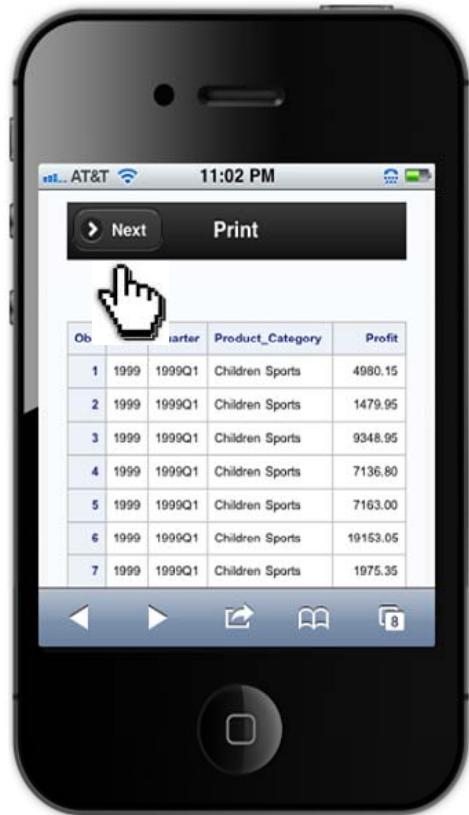
ods html close;
```

SAS® ODS Markup Language and jQuery Mobile Framework



- The ODS markup language enables you to create customized output.
- ODS is the perfect tool to interface with the jQuery Mobile framework.
- An available sample ODS tagset (called jQueryMobile) contains features that drive the framework.
- Download the jQueryMobile tagset from
support.sas.com/rnd/base/ods/odsmarkup/index.html.

jQueryMobile Tagset: Page Layout



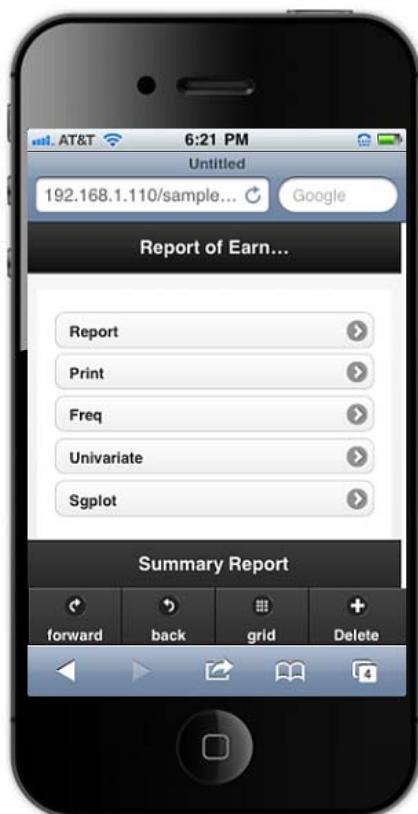
```
ods tagsets.jquerymobile file="c:\temp.html"
options(data_role="page");

proc print data=sashelp.prdsale;
run;

proc report data=sashelp.class nowd;
run;

ods tagsets.jquerymobile close;
```

jQueryMobile Tagset: Collapsible Layout



```
ods tagsets.jquerymobile file="temp.html"
  options(data_role="collapsible"
          header="Report Of Earnings"
          footer="Summary Report"
          data_mini="yes"
          data_corners="yes"
          data_iconpos="right"
          data_expanded_icon="arrow-l"
          data_collapsed_icon="arrow-r"
          footer_icons="forward,back,grid,delete");

proc report data=sashelp.prdsale nowd;
run;

proc print data=sashelp.prdsale noobs;;
run;

. . .more procedure steps . . .

ods tagsets.jquerymobile close;
```

Tips for Writing HTML to the Body of an Email

- The HTML destination provides an easy method of writing to the body of an email
- Microsoft Office Outlook uses rendering engine from Word to display HTML
- Is an easy way to communicate information in a formatted manner
- There are limitations with the presentation of the output
- The -EMAILSYS and –EMAILHOST options are required and should be set to SMTP and the name of the email server respectively
- The CSS specified in the HTML file may be ignored
- The MSOffice2K or HTML3 destinations may allow for a better presentation

Tips for Writing HTML to the Body of an Email

Report for Company XXX - Message (HTML)

FILE MESSAGE

Thu 6/19/14 5:21 PM

sasctp@d79945.na.SAS.com

Report for Company XXX

To: Chevell Parker

If there are problems with how this message is displayed, click here to view it in a web browser.

Report for XXX

Obs	ACTUAL	PREDICT	COUNTRY	REGION	DIVISION	PROTOTYPE	PRODUCT	QUARTER	YEAR	MONTH
1	\$925.00	\$850.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1993	Jan
2	\$999.00	\$297.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1993	Feb
3	\$608.00	\$846.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1993	Mar
4	\$642.00	\$533.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1993	Apr
5	\$656.00	\$646.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1993	May
6	\$948.00	\$486.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1993	Jun
7	\$612.00	\$717.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1993	Jul
8	\$114.00	\$564.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1993	Aug
9	\$685.00	\$230.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1993	Sep
10	\$657.00	\$494.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	4	1993	Oct
11	\$608.00	\$903.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	4	1993	Nov
12	\$353.00	\$266.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	4	1993	Dec
13	\$107.00	\$190.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1994	Jan
14	\$354.00	\$139.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1994	Feb
15	\$101.00	\$217.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1994	Mar
16	\$553.00	\$560.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1994	Apr
17	\$877.00	\$148.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1994	May
18	\$431.00	\$762.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1994	Jun
19	\$511.00	\$457.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1994	Jul
20	\$157.00	\$532.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1994	Aug

sasctp@d79945.na.sas.com Report for Company XXX



Tips for Writing HTML to the Body of an Email

Report for Company XXX - Message (HTML)

FILE MESSAGE

Thu 6/19/14 6:02 PM

sasctp@d79945.na.SAS.com

Report for Company XXX

To Chevall Parker

If there are problems with how this message is displayed, click here to view it in a web browser.

Report for XXX

Obs	ACTUAL	PREDICT	COUNTRY	REGION	DIVISION	PRODTYPE	PRODUCT	QUARTER	YEAR	MONTH
1	\$925.00	\$850.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1993	Jan
2	\$999.00	\$297.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1993	Feb
3	\$608.00	\$846.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1993	Mar
4	\$642.00	\$533.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1993	Apr
5	\$656.00	\$646.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1993	May
6	\$948.00	\$486.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1993	Jun
7	\$612.00	\$717.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1993	Jul
8	\$114.00	\$564.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1993	Aug
9	\$685.00	\$230.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	3	1993	Sep
10	\$657.00	\$494.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	4	1993	Oct
11	\$608.00	\$903.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	4	1993	Nov
12	\$353.00	\$266.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	4	1993	Dec
13	\$107.00	\$190.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1994	Jan
14	\$354.00	\$139.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1994	Feb
15	\$101.00	\$217.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	1	1994	Mar
16	\$553.00	\$560.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1994	Apr
17	\$877.00	\$148.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1994	May
18	\$431.00	\$762.00	CANADA	EAST	EDUCATION	FURNITURE	SOFA	2	1994	Jun

sasctp@d79945.na.sas.com Report for Company XXX



The TableEditor Tagset

- Creates web applications based on options passed
- Sorts and filters values along with freezing columns headers
- Creates the ability to add tabs to the web page
- Has an export feature export data to Excel

The New HTML5 Standard

- HTML5 is still a work in progress, but many browsers support parts of it.
- HTML5 was created to overcome the limitations of HTML and XHTML.
- This standard reduces the need for third-party tools and JavaScript.
- The standard is promoted by companies such as Google and Apple.
- New HTML5 features are based on HTML, CSS, the document object model (DOM), and JavaScript.
- HTML5 revolutionizes the way web pages are used.

Doing more with the new HTML5 Destination

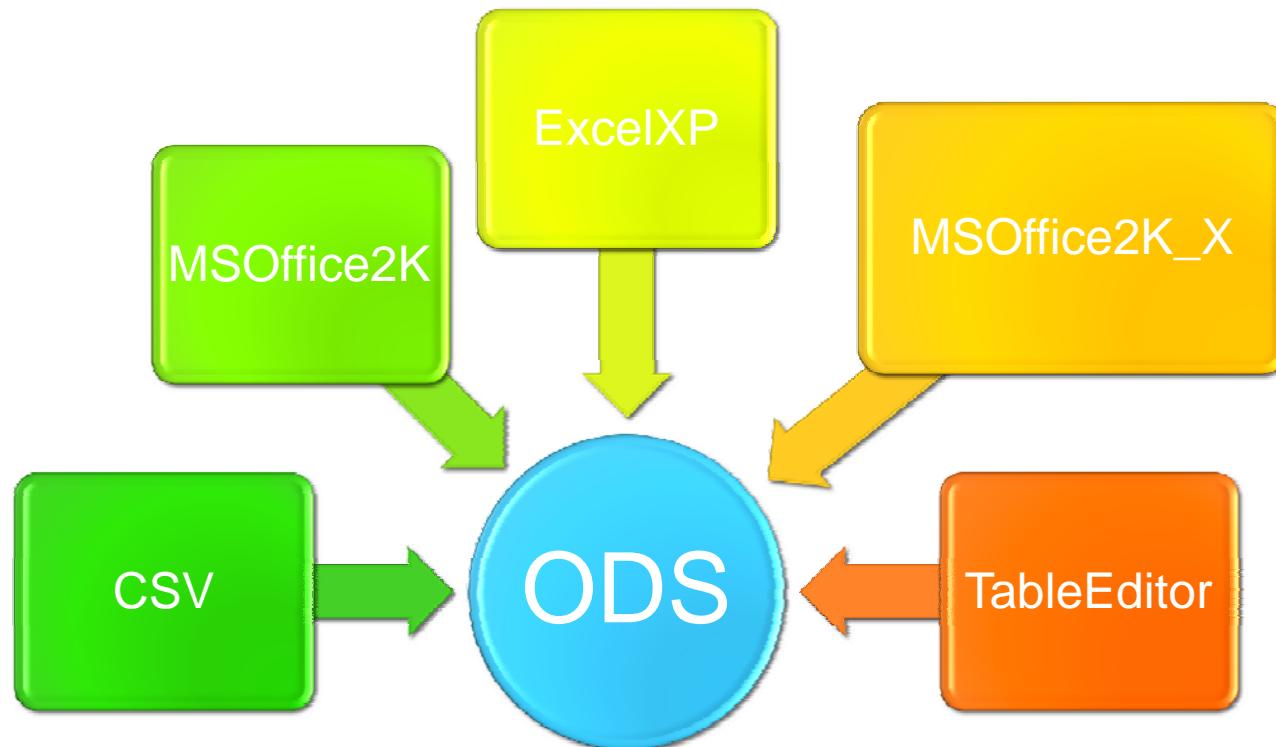
Results Viewer - SAS Output

Obs	Name	Sex	Age	Height	Weight
1	Alfred	M	14	69.0	112.5
2	Alice	F	13	56.5	84.0
3	Barbara	F	13	65.3	98.0
4	Carol	F	14	62.8	102.5
5	Henry	M	14	63.5	102.5
6	James	M	12	57.3	83.0
7	Jane	F	12	59.8	84.5
8	Janet	F	15	62.5	112.5
9	Jeffrey	M	13	62.5	84.0
10	John	M	12	59.0	99.5
11	Joyce	F	11	51.3	50.5
12	Judy	F	14	64.3	80.0
13	Louise	F	12	58.3	77.0
14	Mary	F	15	66.5	112.0
15	Philip	M	16	72.0	150.0
16	Robert	M	12	64.8	128.0
17	Ronald	M	15	67.0	133.0
18	Thomas	M	11	57.5	85.0
19	William	M	15	68.5	112.0

Exporting to Microsoft Excel Using ODS

- Methods of exporting to Excel using ODS
- Enhancements for pivot tables and charts using ODS
- Preserving number formatting while exporting to Excel

ODS Destinations used to Export to Excel



Enhancements for Pivot Tables Creation

- Create visual displays of data within a column
- Create new columns or modify existing columns based on formulas
- Create multiple statistic for a single column
- Automate pivot table creation

The Need for Excel Pivot Tables

A screenshot of Microsoft Excel showing a PivotTable in the process of being created or modified. The PivotTable Field List pane on the right side of the interface lists fields such as Obs, Year, Quarter, Product_Line, Product_Category, and Product_Group. The Report Filter section shows 'Quarter' and 'Year' selected. The Row Labels section shows 'Product_Line' selected. The Values section shows 'Sum of Profit' selected. The main worksheet area displays a PivotTable with data for Product Line, Year, and Quarter. The PivotTable has columns for Year (1999, 2000, 2001, 2002, Grand Total) and rows for Product Line (Children, Clothes & Shoes, Outdoors, Sports). The data includes various profit values and grand totals for each category and year.

	Year					Grand Total
	1999	2000	2001	2002		
Product Line	541552.09	618803.21	538462.06	718302.42	2417119.78	
Children	4189628.64	5009983.42	4158502.82	4739806.54	18097921.42	
Clothes & Shoes	2887433.36	3585371.04	3222898.41	3704810.34	13400513.15	
Outdoors	5653876.74	6945429.6	5834176.75	6736011.06	25169494.15	
Sports	13272490.83	16159587.27	13754040.04	15898930.36	59085048.5	
Grand Total						

Exporting Microsoft Excel Pivot Tables That Contain Visual Displays

```
ods tagsets.tableeditor file="temp.html"
  options(format_condition="databar,2-9"
          pivotrow="product_category"
          pivotcol="quarter"
          pivotdata="profit"
          pivotdata_caption="Profit Analysis"
          pivot_grandtotal="no");
proc print data=sashelp.orsales;
  where quarter in("1999Q1","1999Q2","1999Q3","1999Q4",
                    "2000Q1","2000Q2","2000Q3","2000Q4");
run;

ods tagsets.tableeditor close;
```

Exporting Microsoft Excel Pivot Tables That Contain Visual Displays (continued)

	A	B	C	D	E	F	G	H	I	J
1	Profit Analysis	Quarter								
2	Product_Category	1999Q1	1999Q2	1999Q3	1999Q4	2000Q1	2000Q2	2000Q3	2000Q4	
3	Assorted Sports Articles	363086.25	727541.3	667273.45	476750.26	433727	885753.95	866076.67	613945.84	
4	Children Sports	83729.45	169275.76	159256.52	129290.36	90331	176233.57	195299.36	156939.28	
5	Clothes	367710.97	573820.98	587566.7	542304.59	426952.3	721884.32	753536.19	679945.36	
6	Golf	117837.1	265423.16	252808.48	190804.93	152468	328715.96	321455.17	219635.65	
7	Indoor Sports	110061.52	47782.85	65434.15	118893.73	126674.23	55105.3	96217.55	136081.05	
8	Outdoors	572127.17	947800.82	762239.5	605265.87	697337.23	1120274.81	979205.7	788553.3	
9	Racket Sports	72263.45	117279.19	124169.07	133495.78	84174.8	144999.6	143471.53	167458.59	
10	Running - Jogging	99604.25	154034.3	147388.46	103191.96	116787.55	181674.52	191581.08	136142.41	

Adding Computed Fields to Pivot Tables

```
ods tagsets.tableeditor file="temp.html"
  options(addfield="Returns =Profit*.05,Actual_profit =Profit*1.05"
          pivotdata="Profit,returns,actual_profit"
          pivotrow="product_category"
          pivotdata_fmt="#,###,##"
          pivotdata_caption="Gross_Profit,Return_Amount,Net_Profit"
          pivotdata_tocolumns="yes"
          format_condition=",colorscale,4"
          pivot_grandtotal="no");
proc print data=sashelp.orsales;
run;

ods tagsets.tableeditor close;
```

Adding Computed Fields to Pivot Tables (continued)

The screenshot shows a Microsoft Excel window titled "Book1 - Microsoft Excel". The ribbon menu is visible at the top, with the "File" tab selected. A PivotTable is displayed in the main area, with columns labeled "A", "B", "C", and "D". The first row contains the header "Data". The second row contains the field names: "Product_Category", "Gross_Profit", "Return_Amount", and "Net_Profit". Subsequent rows show data for various product categories. To the right of the PivotTable, the "PivotTable Tools" ribbon is shown, specifically the "Options" tab. A "PivotTable Field List" dialog box is open, titled "Choose fields to add to report:". It lists several fields with checkboxes: "Product_Line" (unchecked), "Product_Category" (checked), "Product_Group" (unchecked), "Quantity" (unchecked), "Profit" (checked), "Total_Retail_Price" (unchecked), "RETURNS" (checked), and "ACTUAL_PROFIT" (checked). The "PivotTable Field List" dialog box has a vertical scroll bar on its right side.

	A	B	C	D
1		Data		
2	Product_Category	Gross_Profit	Return_Amount	Net_Profit
3	Assorted Sports Articles	9,994,899	499,745	10,494,644
4	Children Sports	2,417,120	120,856	2,537,976
5	Clothes	9,208,375	460,419	9,668,794
6	Golf	3,711,822	185,591	3,897,413
7	Indoor Sports	1,481,331	74,067	1,555,397
8	Outdoors	13,400,513	670,026	14,070,539
9	Racket Sports	2,016,835	100,842	2,117,677
10	Running - Jogging	2,300,666	115,033	2,415,699
11	Shoes	8,889,546	444,477	9,334,023
12	Running - Track	1,000,000	50,000	950,000

Automate Pivot Table Creation

The screenshot shows the SAS Studio interface with a table named 'Table_1' being converted into a pivot table named 'Table_1_piv'. The source table 'Table_1' contains data for various product categories across different years and quarters. The pivot table 'Table_1_piv' is currently empty, indicated by the '(All)' dropdowns in the first two rows.

	A	B	C	D	E	F
1	Quarter	(All)				
2	Year	(All)				
3						
4		Data				
5	Product_Category	Sum of Quan	% of	Sum of Prof	% of	
6	Assorted Sports Articles	201758	15.10%	9994898.76	16.92%	
7	Children Sports	126021	9.43%	2417119.78	4.09%	
8	Clothes	278222	20.82%	9208375.42	15.58%	
9	Golf	62466	4.68%	3711822.11	6.28%	
10	Indoor Sports	18988	1.42%	1481330.76	2.51%	
11	Outdoors	199779	14.95%	13400513.15	22.68%	
12	Racket Sports	34440	2.58%	2016834.77	3.41%	
13	Running - Jogging	80382	6.02%	2300666.19	3.89%	
14	Shoes	185177	13.86%	8889545.98	15.05%	
15	Swim Sports	36096	2.70%	727868.6	1.23%	
16	Team Sports	66321	4.96%	1007238.97	1.70%	
17	Winter Sports	46508	3.48%	3928833.99	6.65%	
18	Grand Total	1336158	100.00%	59085048.48	100.00%	
19						

Cell Formatting Issues Exporting to Excel

- Leading and trailing zeroes are omitted in numbers.
- Numbers larger than 13 digits are displayed in scientific notation.
- The SAS COMMA format might not be maintained.
- Numeric values longer than 15 digits lose precision.
- Values that contain dashes might display as Excel dates.
- The SAS DOLLAR format might be treated as text.

Cell Formatting Issues Exporting to Excel

The screenshot shows a SAS Output window titled "Output - (Untitled)" displaying "Default listing output". The output consists of six columns: Leading, Range, Scientific, Thousands, Character, and Number. Below the table is a horizontal scrollbar. Six red arrows point from the column headers in the SAS table down to the corresponding columns in the Excel table below.

Leading	Range	Scientific	Thousands	Character	Number
0001	04-21	123456789101112145	1,000	0000E110	45.00
0002	05-20	33343445555544334	2,000	0000E120	48.00
0003	06-21	123456789101112145	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

Cell Formatting Issues Exporting to Excel: Custom 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 date 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 .

Cell Formatting Issues Exporting to Excel

Destination	Attribute	Parameter	Excel Version
ExcelXP	TAGATTR=	format:	Excel 2002 +
MSOffice2K/ MSOffice2K_x	HTMLSTYLE=	mso-number-format:	Excel 2000 +
TableEditor	HTMLSTYLE/ HTMLCLASS	mso-number-format:	Excel 97+
CSV	N/A		

Cell Formatting Issues Exporting to Excel

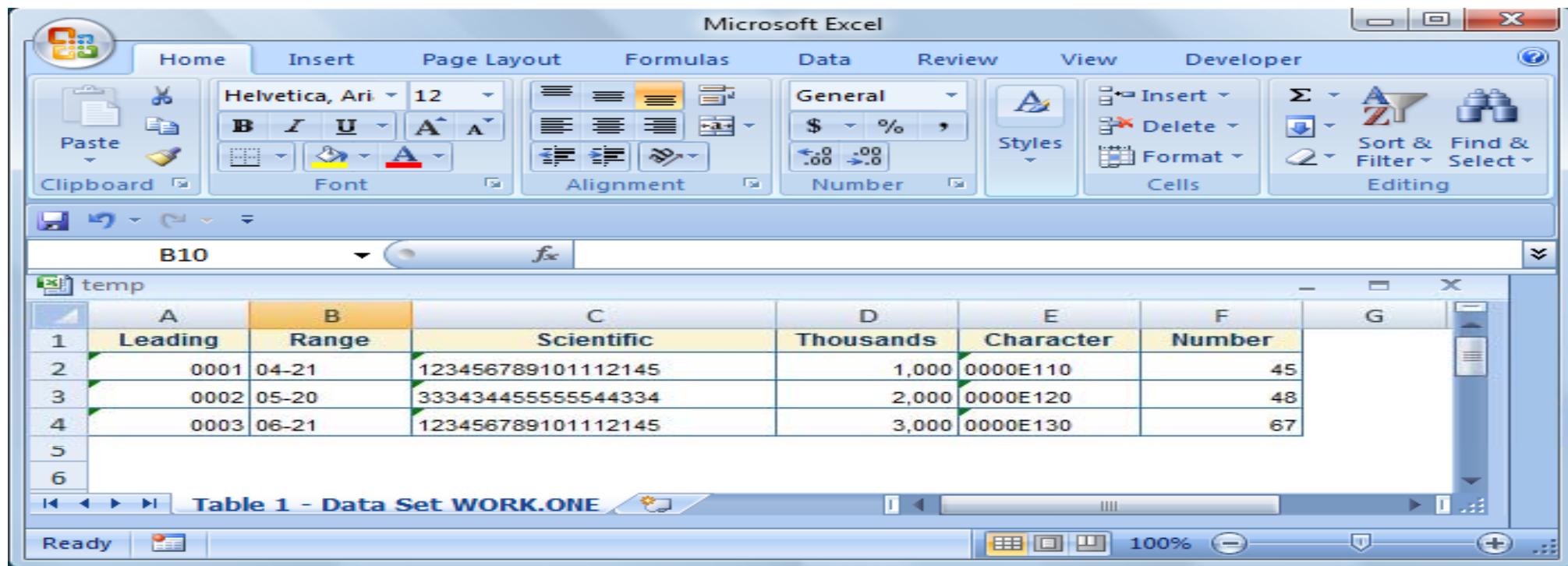
```
ods tagsets.excelxp file="temp.xls" style=normal;

proc print data=one;
  format leading z4. ;
  var leading / style(data)={tagattr="format:@"} ;
  var range   / style(data)={tagattr="format:@"} ;
  var scientific / style(data)={tagattr="type:String"} ;
  var thousands / style(data)={tagattr="format:#,###"} ;
  var character / style(data)={tagattr="format:@"} ;
  var number    / style(data)={tagattr="format:##"} ;

run;

ods tagsets.excelxp close;
```

Cell Formatting Issues Exporting to Excel



The screenshot shows a Microsoft Excel window with the title "Microsoft Excel". The ribbon tabs visible are Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Help. The Home tab is selected. The ribbon contains several toolbars: Clipboard, Font, Alignment, Number, Styles, Insert, Delete, Format Cells, Sort & Filter, Find & Select, and Editing. The status bar at the bottom shows "Table 1 - Data Set WORK.ONE", "Ready", "100%", and zoom controls. A table titled "temp" is displayed in the worksheet. The table has columns labeled A through F. Column A contains the header "Leading" and data "0001", "0002", and "0003". Column B contains the header "Range" and data "04-21", "05-20", and "06-21". Column C contains the header "Scientific" and data "123456789101112145", "333434455555544334", and "123456789101112145". Column D contains the header "Thousands" and data "1,000", "2,000", and "3,000". Column E contains the header "Character" and data "0000E110", "0000E120", and "0000E130". Column F contains the header "Number" and data "45", "48", and "67". The data in column C is displayed in scientific notation.

	A	B	C	D	E	F
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

Preserving Cell Formatting Based on Data Type

The screenshot shows a Microsoft Excel window with the title bar "Microsoft Excel". The ribbon menu is visible with tabs like Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Help. The Home tab is selected. The ribbon contains several toolbars: Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. The status bar at the bottom shows "Table 1 - Data Set WORK.ONE", zoom level "100%", and other standard status icons.

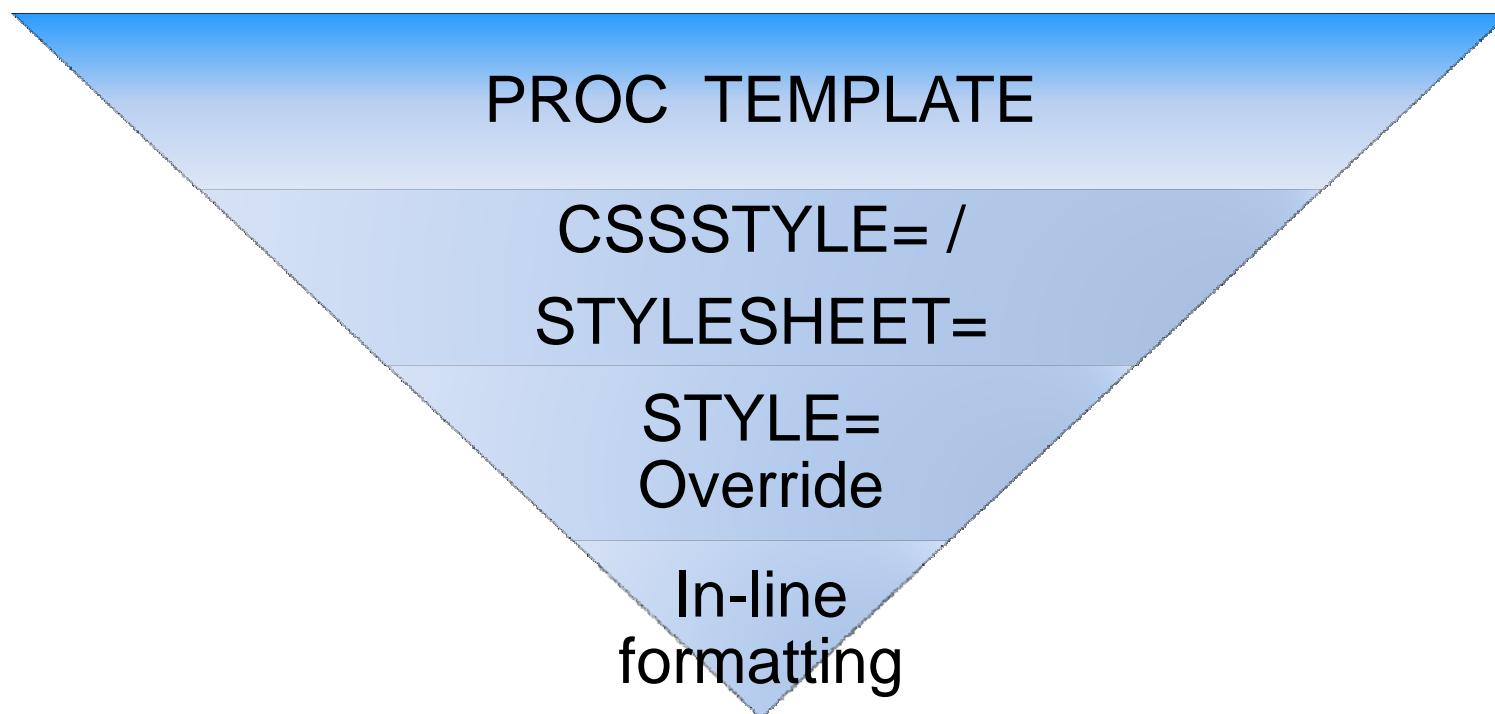
The main area displays a table titled "temp" with the following data:

	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							

Enhancing Reports using Styles and other ODS Tools

- Using Cascading Style Sheets with ODS
- Enhancing reports using ODS Layout and the Report Writing Interface
- Creating Zip files using ODS

Methods of Creating and Modifying Styles Using ODS



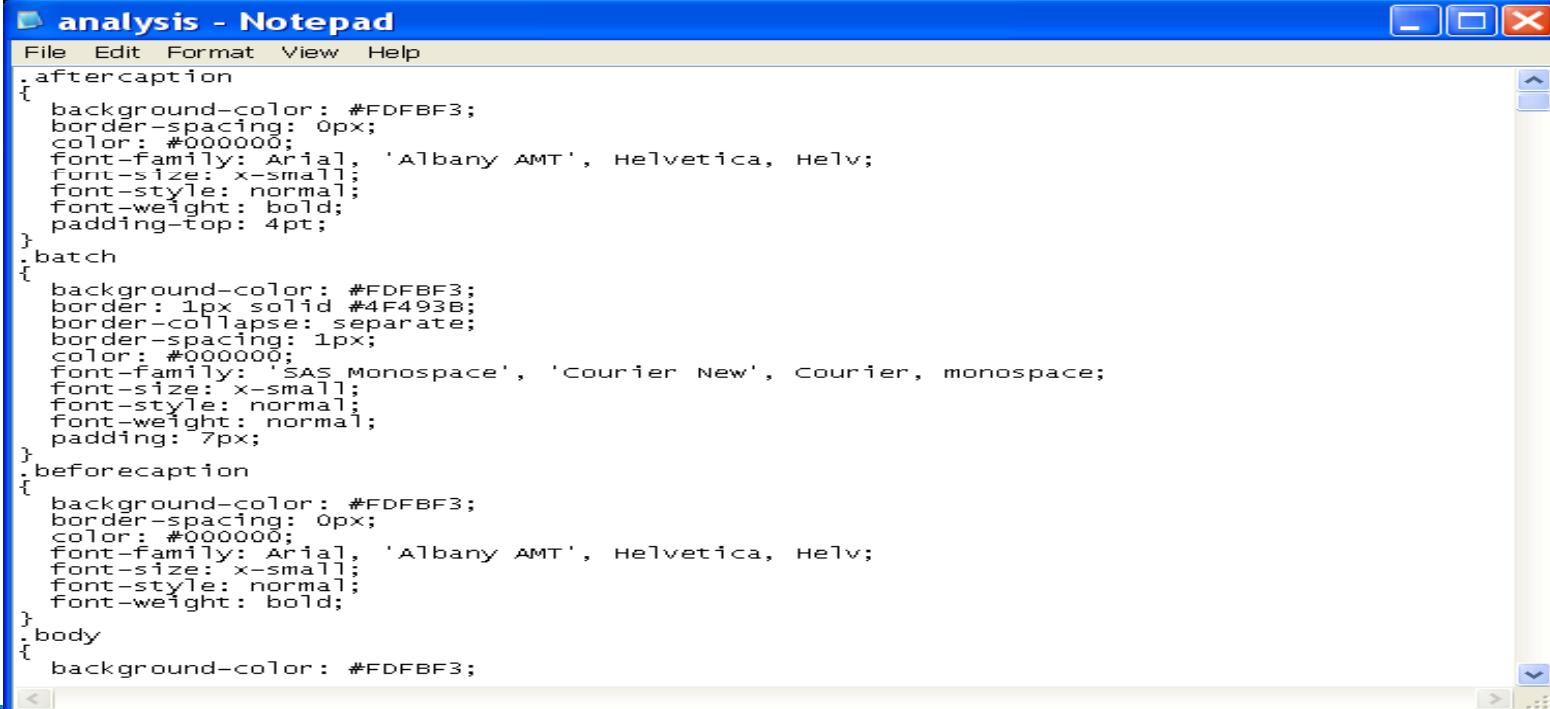
Cascading Style Sheets and ODS

- There are three types of CSS styles: internal (embedded), external, and inline.
- The HTML and HTML5 ODS destinations use internal style sheets by default.
- External style sheets are stored externally as a separate file.
- The CSSSTYLE= option applies CSS for formatting with most ODS destinations
- Allows advanced formatting which was not possible template styles
- The TEMPLATE procedure fully supports the use of CSS files.

Cascading Style Sheets: Basics *(continued)*

You can use any SAS® template style to create a CSS file.

```
ods html stylesheet='c:\analysis.css' style=styles.analysis;
```



The screenshot shows a Windows Notepad window with a blue title bar containing the text "analysis - Notepad". The menu bar includes File, Edit, Format, View, and Help. The window contains the following SAS CSS code:

```
.aftercaption
{
  background-color: #FDFBF3;
  border-spacing: 0px;
  color: #000000;
  font-family: Arial, 'Albany AMT', Helvetica, Helv;
  font-size: x-small;
  font-style: normal;
  font-weight: bold;
  padding-top: 4pt;
}
.batch
{
  background-color: #FDFBF3;
  border: 1px solid #4F493B;
  border-collapse: separate;
  border-spacing: 1px;
  color: #000000;
  font-family: 'SAS Monospace', 'Courier New', Courier, monospace;
  font-size: x-small;
  font-style: normal;
  font-weight: normal;
  padding: 7px;
}
.beforecaption
{
  background-color: #FDFBF3;
  border-spacing: 0px;
  color: #000000;
  font-family: Arial, 'Albany AMT', Helvetica, Helv;
  font-size: x-small;
  font-style: normal;
  font-weight: bold;
}
body
{
  background-color: #FDFBF3;
```

CSS Style Sheets: Basics *(continued)*

CSS Style Selectors

- In CSS, *style selectors* are patterns that are used to select specific elements to which you want to add styles.
- There are four basic selector types:
 - class selectors
 - type selectors
 - ID selectors
 - Attribute
 - Pseudo-Class

CSS Declaration with Selectors

```
.data {color: red;  
       background-color: #808080;  
       font-size: 12px;  
       font-style: italic;  
       font-weight:bold  
     }  
h1 {color:red;  
    font-style:italic;  
  }  
#item {position:relative;  
       color:red;  
       font-size:10px;  
     }
```

CSS Style Sheets: Pseudo-class Selector

```
.table tbody tr:nth-child(even) td {  
background-color: white;  
color: black;  
}  
.table tbody tr:nth-child(odd) td {  
background-color: black;  
color: white;  
}
```

CSS Style Sheets: Pseudo-class Selector (continued)

```
ods pdf file="c:\temp3.pdf" cssstyle="c:\printer.css";  
  
proc print data=sashelp.class;  
run;  
  
ods pdf close;
```

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Obs	Name	Sex	Age	Height	Weight
1	Joyce	F	11	51.3	50.5
2	Thomas	M	11	57.5	85.0
3	Jane	F	12	59.8	84.5
4	Louise	F	12	56.3	77.0
5	James	M	12	57.3	83.0
6	John	M	12	59.0	99.5
7	Robert	M	12	64.8	128.0
8	Alice	F	13	56.5	84.0
9	Barbara	F	13	65.3	98.0
10	Jeffrey	M	13	62.5	84.0
11	Carol	F	14	62.8	102.5
12	Judy	F	14	64.3	90.0
13	Alfred	M	14	69.0	112.5
14	Henry	M	14	63.5	102.5
15	Janet	F	15	62.5	112.5
16	Mary	F	15	66.5	112.0
17	Ronald	M	15	67.0	133.0
18	William	M	15	66.5	112.0
19	Philip	M	16	72.0	150.0

Enhancing Reporting using ODS Layout

- Enables output to be placed specifically on a page
- Is good for emulating specific type of reports
- Creates both gridded and absolute layouts
- Defined by one or more regions

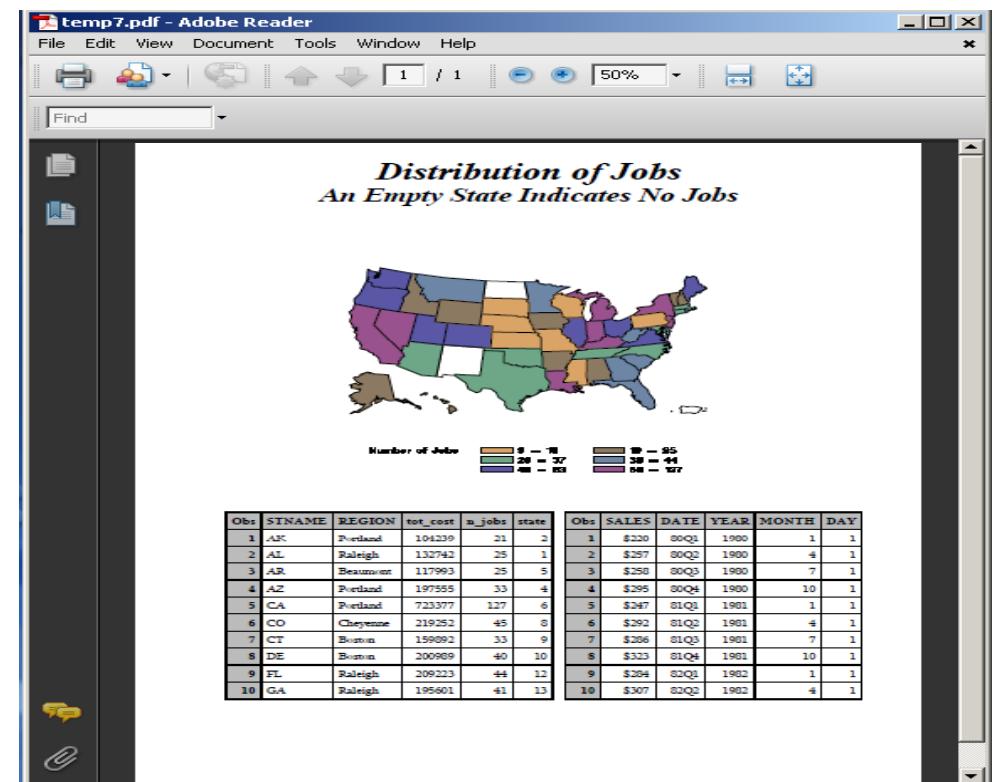
Enhancing Reporting using ODS Layout-Absolute

```
ods layout start width=8in height=10in;
ods region x=2in y=.5in width=6in...;
proc gmap ...
```

```
ods region x=.5in y=3in width=4in...;
proc print....
```

```
ods region x=4in y=3in width=4in...;
proc print...;
```

```
ods layout end;
```



Enhancing Reporting using ODS Layout-Gridded

```
ods layout start columns=2 rows=2;
```

```
ods region;  
proc print data=class;run;
```

```
ods region;  
proc print data=fitness;run;
```

```
ods region;  
proc print data=orsales;run;
```

```
ods region;  
proc print data=prdsale;run;
```

```
ods layout end;
```

Column1	Column2	
Row1	Region1	Region2
Row2	Region3	Region4

Generating Zip Archives with ODS Packages

```
ods package open nopf;
ods tagsets.excelxp file="c:\temp.xml" package;

proc print data=sashelp.class;
run;

ods tagsets.excelxp close;
ods package publish archive
properties.archive_name="Example.zip"
archive_path="c:\";
ods package close;
```

Contact Information

Email: Chevell.Parker@sas.com

Resources

“Cascading Style Sheets.” World Wide Web Consortium. Available at
<http://www.w3.org/Style/CSS/>.

ftp://ftp.sas.com/techsup/download/base/illinois_examples.ZIP.

“ODS Markup”

<http://support.sas.com/rnd/base/ods/odsmarkup/index.html>



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