

# An Introduction to Creating Multi-Sheet Microsoft Excel Workbooks the Easy Way with SAS®

Vince DelGobbo  
Web Tools Group, SAS

*T.C.A.S.U.G.*

 THE POWER TO KNOW.

## Goals

- Integrate SAS output w/ Excel
- Give you something you can use TODAY

2

 THE POWER TO KNOW.

## Software Requirements

- Base SAS, *any* operating system
- SAS 9.1.3 SP4 or later
- Modified version of the ExcelXP tagset  
(see "More Tips and Tricks..." paper for details)
- Microsoft Excel XP or later (a.k.a. Excel 2002)

3

## General Steps

1. Run SAS code to create output
2. Store output where Excel can access it
3. Open output with Excel
4. Modify SAS code to correct formatting problems

4

## ODS Basics

- Part of Base SAS
- Easily generate multiple output types (HTML, RTF, PDF, XML, etc.)
- A "destination" creates the actual output
- A "style" controls the appearance
- Usage:

HTML or RTF or PDF ...

```
ods DestName style=StyleName file=... ;  
  * Your SAS procedure code here;  
ods DestName close;
```

5

## ODS Basics – Output for Excel

- Excel can open specially made XML files as multi-sheet workbooks (graphics not supported)
- Use the ExcelXP tagset and sansPrinter style:

```
ods listing close;  
ods tagsets.ExcelXP style=sansPrinter  
  file=... ;  
  * Your SAS procedure code here;  
ods tagsets.ExcelXP close;
```

6

## Sample SAS Code

```
title 'The CLASS Dataset';
footnote '(From the SASHELP library)';

proc print data=sashelp.class noobs;
  where (sex eq 'M');
  var name age height weight;
run; quit;

proc print data=sashelp.class noobs;
  where (sex eq 'F');
  var name age height weight;
run; quit;
```

7

## SAS Listing Output

Name	Age	Height	Weight
Alfred	14	69.0	112.5
Henry	14	63.5	102.5
James	12	57.3	83.0
...			

Name	Age	Height	Weight
Alice	13	56.5	84.0
Barbara	13	65.3	98.0
Carol	14	62.8	102.5
...			

8

## Using ODS and the ExcelXP Tagset

```
title 'The CLASS Dataset';
footnote '(From the SASHELP library)';

proc print data=sashelp.class noobs;
  where (sex eq 'M');
  var name age height weight;
run; quit;

proc print data=sashelp.class noobs;
  where (sex eq 'F');
  var name age height weight;
run; quit;
```

9

## Using ODS and the ExcelXP Tagset

```
ods tagsets.ExcelXP file='MyWorkbook.xml'
  style=sansPrinter;
```

```
title 'The CLASS Dataset';
footnote '(From the SASHELP library)';

proc print data=sashelp.class noobs;
  where (sex eq 'M');
  var name age height weight;
run; quit;

proc print data=sashelp.class noobs;
  where (sex eq 'F');
  var name age height weight;
run; quit;
```

```
ods tagsets.ExcelXP close;
```

10

## Open MyWorkbook.xml with Excel

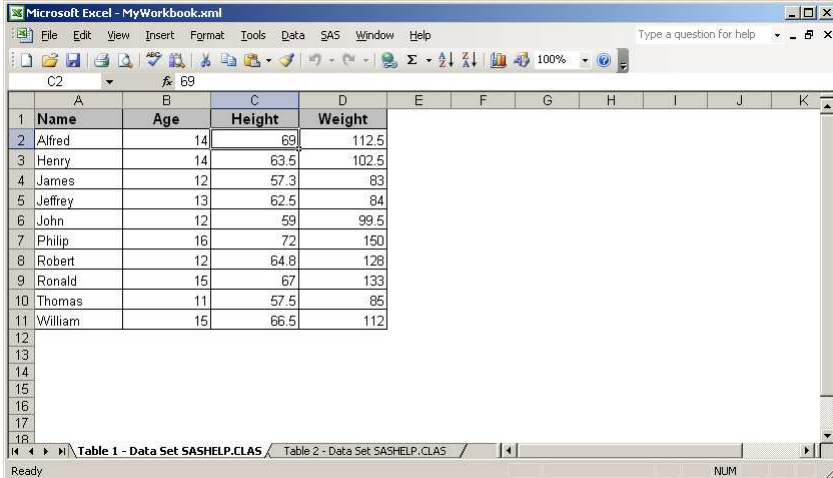
- Open Excel: Start > Programs > . . .
- File > Open
- Navigate to ...MyWorkbook.xml and click **Open**

~ OR ~

- Navigate to output directory and double-click **MyWorkbook.xml**

11

## MyWorkbook.xml Viewed with Excel



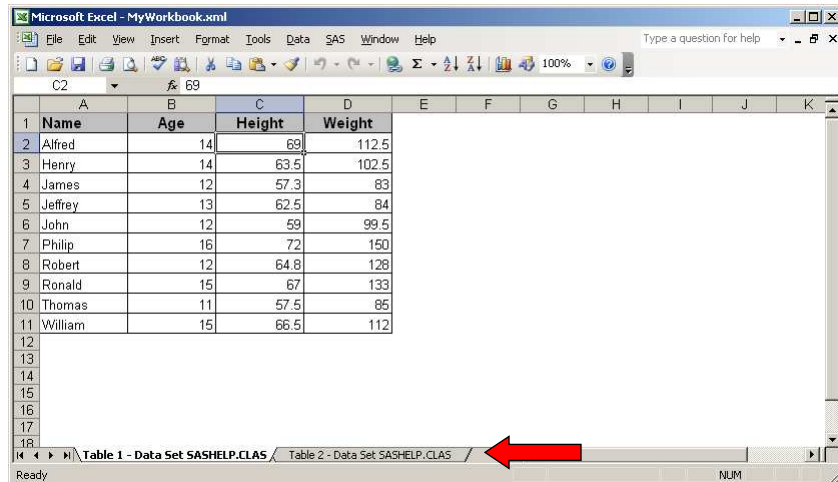
	A	B	C	D	E	F	G	H	I	J	K
1	Name	Age	Height	Weight							
2	Alfred	14	69	112.5							
3	Henry	14	63.5	102.5							
4	James	12	57.3	83							
5	Jeffrey	13	62.5	84							
6	John	12	59	99.5							
7	Philip	16	72	150							
8	Robert	12	64.8	128							
9	Ronald	15	67	133							
10	Thomas	11	57.5	85							
11	William	15	66.5	112							
12											
13											
14											
15											
16											
17											
18											

12

# Understanding and Using the ExcelXP Tagset Options

13

## Supply Your Own Worksheet Names



	A	B	C	D	E	F	G	H	I	J	K
1	Name	Age	Height	Weight							
2	Alfred	14	69	112.5							
3	Henry	14	63.5	102.5							
4	James	12	57.3	83							
5	Jeffrey	13	62.5	84							
6	John	12	59	99.5							
7	Philip	16	72	150							
8	Robert	12	64.8	128							
9	Ronald	15	67	133							
10	Thomas	11	57.5	85							
11	William	15	66.5	112							
12											
13											
14											
15											
16											
17											
18											

14

## ExcelXP Supports Tagset Options

- Syntax: `options(option-name='option-value')`

- Can control the worksheet name:

```
options(sheet_name='worksheet-name');
```

- Can have multiple ODS statements
- Options remain in effect until changed !

15

## Supply Your Own Worksheet Names

```
ods tagsets.ExcelXP style=sansPrinter file= ... ;  
title ...; footnote ...;
```

```
ods tagsets.ExcelXP options(sheet_name='Male  
Students');
```

```
proc print ...;  
  where (sex eq 'M');  
  ... ;  
run; quit;
```

```
ods tagsets.ExcelXP options(sheet_name='Female  
Students');
```

```
proc print ...;  
  where (sex eq 'F');  
  ... ;  
run; quit;
```

```
ods tagsets.ExcelXP close;
```

16

## Supply Your Own Worksheet Names

The screenshot shows a Microsoft Excel window titled 'Microsoft Excel - MyWorkbook.xml'. The worksheet contains the following data:

	A	B	C	D	E	F	G	H	I	J	K
1	<b>Name</b>	<b>Age</b>	<b>Height</b>	<b>Weight</b>							
2	Alfred	14	69	112.5							
3	Henry	14	63.5	102.5							
4	James	12	57.3	83							
5	Jeffrey	13	62.5	84							
6	John	12	59	99.5							
7	Philip	16	72	150							
8	Robert	12	64.8	128							
9	Ronald	15	67	133							
10	Thomas	11	57.5	85							
11	William	15	66.5	112							
12											
13											
14											
15											
16											
17											
18											

The status bar at the bottom shows the active worksheet is 'Male\_Students', with 'Female\_Students' also visible. A red arrow points to the 'Male\_Students' label.

17

## Display Titles & Footnotes in Worksheet

- Title text → Excel print header
- Footnote text → Excel print footer
- Can control location of title & footnote text:

```
options(embedded_titles='yes'  
        embedded_footnotes='yes')
```

18

## Display Titles & Footnotes in Worksheet

```
ods tagsets.ExcelXP style=sansPrinter file= ... ;  
title ...; footnote ...;  
* Set some "global" tagset options;  
ods tagsets.ExcelXP  
  options(embedded_titles='yes'  
          embedded_footnotes='yes');  
ods tagsets.ExcelXP options(sheet_name=...);  
proc print ...; run; quit;  
ods tagsets.ExcelXP options(sheet_name=...);  
proc print ...; run; quit;  
ods tagsets.ExcelXP close;
```

19

## Display Titles & Footnotes in Worksheet

The screenshot shows a Microsoft Excel window with a worksheet containing the following data:

The CLASS Dataset			
Name	Age	Height	Weight
Alfred	14	69	112.5
Henry	14	63.5	102.5
James	12	57.3	83
Jeffrey	13	62.5	84
John	12	59	99.5
Philip	16	72	150
Robert	12	64.8	128
Ronald	15	67	133
Thomas	11	57.5	85
William	15	66.5	112

(From the SASHELP library)

20

## Can Also Have Print Headers & Footers

```
options(print_header='header-text'  
        print_footer='footer-text')
```

Example:

```
print_header='&C&A&RPage &P of &N'  
print_footer='&RPrinted &D at &T'
```

21

## Can Also Have Print Headers & Footers

```
print_header='&C&A&RPage &P of &N'  
print_footer='&RPrinted &D at &T'
```

Control Sequence	Function
&C	Center text
&A	Insert sheet name
&R	Right-justify text
&P	Insert page number
&N	Insert number of pages
&D	Insert date printed
&T	Insert time printed
&F	Insert file name
&Z	Insert file path

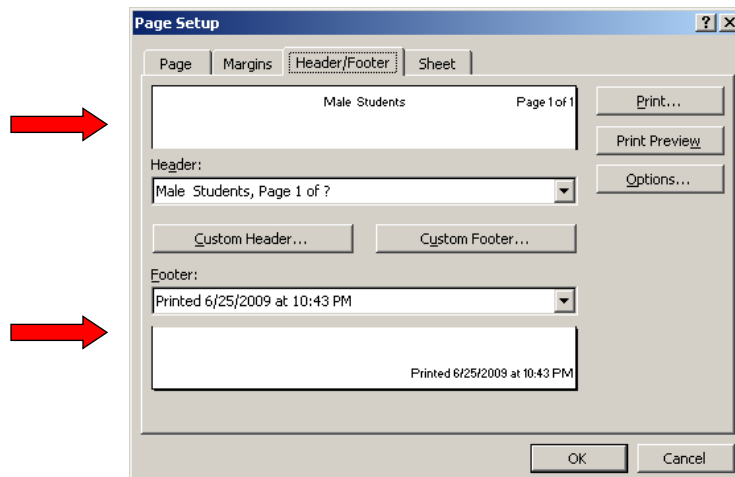
22

## Can Also Have Print Headers & Footers

```
ods tagsets.ExcelXP style=sansPrinter file= ... ;
title ...; footnote ...;
* Set some "global" tagset options;
ods tagsets.ExcelXP
  options(embedded_titles='yes'
          embedded_footnotes='yes'
          print_header='&C&A&RPage &P of &N'
          print_footer='&RPrinted &D at &T');
ods tagsets.ExcelXP options(sheet_name=...);
proc print ...; run; quit;
ods tagsets.ExcelXP options(sheet_name=...);
proc print ...; run; quit;
ods tagsets.ExcelXP close;
```

23

## Can Also Have Print Headers & Footers



24

# AutoFilters

The CLASS Dataset

Name	Age	Height	Weight
Alfred	14	69	112.5
Henry	14	63.5	102.5
James	12	57.3	83
Jeffrey	13	62.5	84
John	12	59	99.5
Philip	16	72	150
Robert	12	64.8	128
Ronald	15	67	133
Thomas	11	57.5	85
William	15	66.5	112

(From the SASHELP library)

25

# AutoFilters

The CLASS Dataset

Name	Age	Height	Weight
Alfred	Sort Ascending	69	112.5
Henry	Sort Descending	63.5	102.5
James	(All)	57.3	83
Jeffrey	(Top 10...)	62.5	84
John	(Custom...)	59	99.5
Philip	11	72	150
Robert	12	64.8	128
Ronald	13	67	133
Thomas	14	57.5	85
William	15	66.5	112

(From the SASHELP library)

26

## AutoFilters

The screenshot shows a Microsoft Excel window titled "MyWorkbook.xml". The spreadsheet contains the following data:

The CLASS Dataset			
Name	Age	Height	Weight
Ronald	15	67	133
William	15	66.5	112

Below the data, the text "(From the SASHELP library)" is displayed. The status bar at the bottom indicates "2 of 10 records found" and "NUM".

27

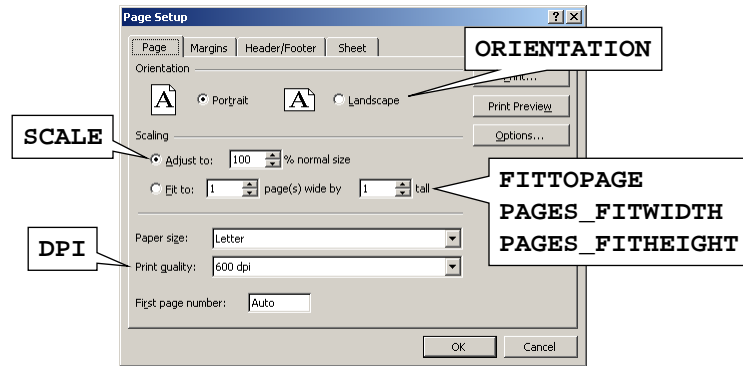
## AutoFilters

```
* Set some "global" tagset options;  
ods tagsets.ExcelXP  
  options(embedded_titles='yes'  
          embedded_footnotes='yes'  
          print_header='&C&A&RPage &P of &N'  
          print_footer='&RPrinted &D at &T'  
          autofilter='2');  
  
ods tagsets.ExcelXP options(sheet_name=...);  
proc print ...; run; quit;  
  
ods tagsets.ExcelXP options(sheet_name=...);  
proc print ...; run; quit;
```

28

## Print Options – Page Setup Dialog

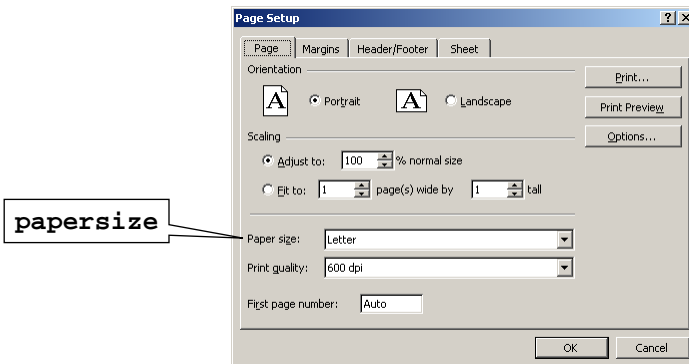
Tagset options



29

## Print Options – Page Setup Dialog

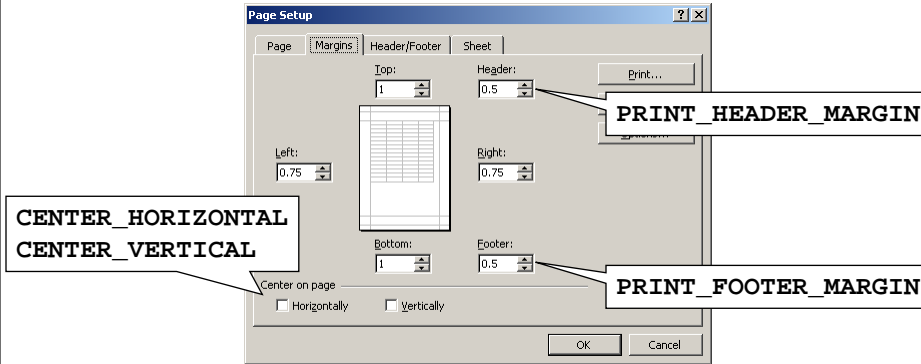
SAS system option, NOT tagset option



30

## Print Options – Page Setup Dialog

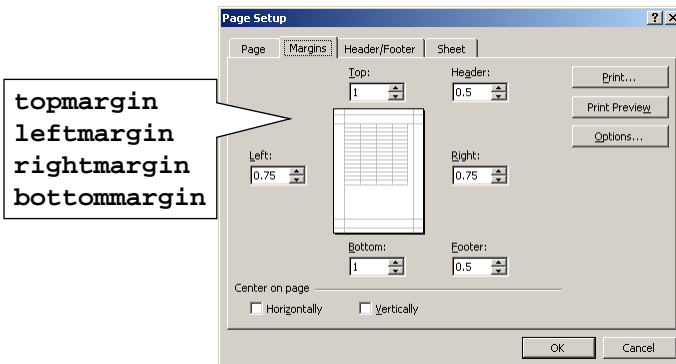
Tagset options



31

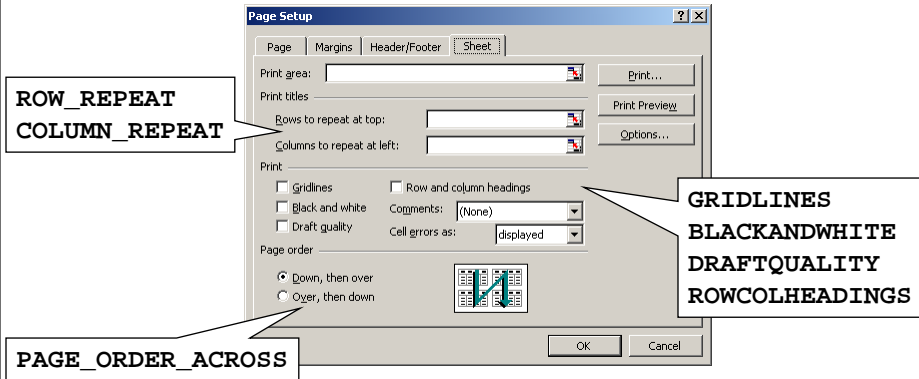
## Print Options – Page Setup Dialog

SAS system options, NOT tagset options



32

## Print Options – Page Setup Dialog



33

Copyright © 2011, SAS Institute Inc. All rights reserved.

## Understanding and Using ODS Style Overrides

34

Copyright © 2011, SAS Institute Inc. All rights reserved.

## Changing Display Attributes and Number Formats

- Gender-appropriate background 😊
- 1 decimal place for Height and Weight
- Supported by PRINT, REPORT and TABULATE

Name	Age	Height	Weight
Alfred	14	69.0	112.5
Henry	14	63.5	102.5
James	12	57.3	83.0
Jeffrey	13	62.5	84.0
John	12	59.0	99.5
Philip	16	72.0	150.0
Robert	12	64.8	128.0
Ronald	15	67.0	133.0
Thomas	11	57.5	85.0
William	15	66.5	112.0

Name	Age	Height	Weight
Alice	13	56.5	84.0
Barbara	13	65.3	98.0
Carol	14	62.8	102.5
Jane	12	59.8	84.5
Janet	15	62.5	112.5
Joyce	11	51.3	50.5
Judy	14	64.3	90.0
Louise	12	56.3	77.0
Mary	15	66.5	112.0

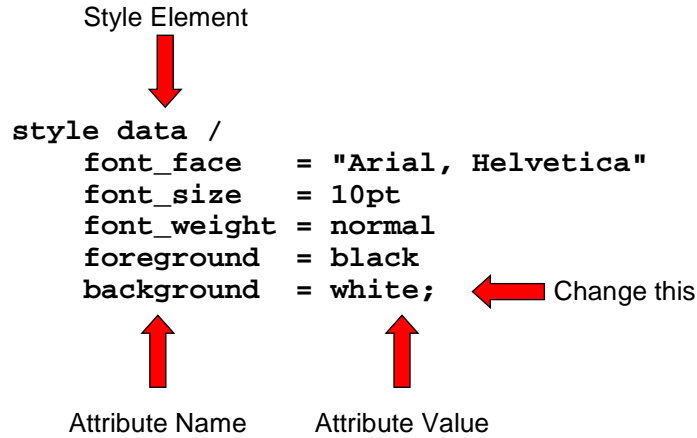
35

## Changing Display Attributes and Number Formats

1. Find an ODS style you like
2. Make a copy of the style
3. Change/add style elements/attributes
4. Use the new style elements ("style override")

36

## ODS Basics – Anatomy of an ODS Style



37

## Default Colors Supported by Excel 2002/2003


Black		#333399		#993300	
#333333		#666699		#993366	
Gray		Blue		#FF8080	
#969696		#0066CC		#FFCC99	
Silver		#3366FF		#FF99CC	
Teal		#00CCFF		Fuchsia	
#003300		#33CCCC		Red	
#333300		Aqua		#FF6600	
Green		#CCFFFF		#FF9900	
#339966		#99CCFF		#FFCC00	
Olive		#9999FF		Yellow	
#99CC00		#CCCCFF		#FFFF99	
Lime		#CC99FF		#FFF999	
#CCFFCC		Purple		#FFF999	
#003366		#660066		White	
Navy		Maroon			

38


## Make a Copy of the Style

```
proc template;  
  define style styles.XLsansPrinter;  
    parent = styles.sansPrinter;  
  end;  
run; quit;
```

New Style Name



Original Style Name




39

## Change/Add Style Elements/Attributes

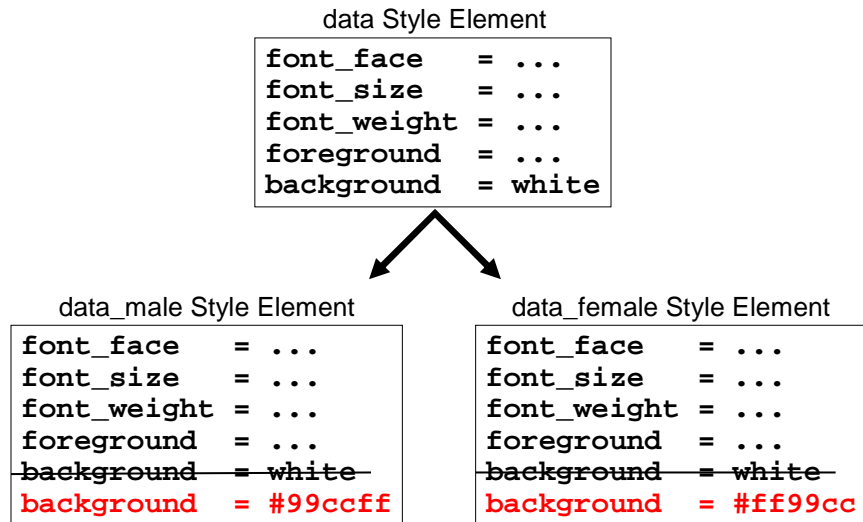
```
proc template;  
  define style styles.XLsansPrinter;  
    parent = styles.sansPrinter;  
    style data_male from data /  
      background=#99ccff;  
    style data_female from data /  
      background=#ff99cc;  
  end;  
run; quit;
```

New style elements (`data_male`, `data_female`) to override an existing attribute (`background`)



40

## Child Attributes Inherited from the Parent



41

## Use the New Elements – Name & Age Only

```
ods tagsets.ExcelXP style=XLSansPrinter file= ... ;
* Other ODS statements here...
proc print data=sashelp.class noobs;
  where (sex eq 'M');
  var name age / style(Column)=data_male;
  var height weight;
run; quit;

* Other ODS statement here...
proc print data=sashelp.class noobs;
  where (sex eq 'F');
  var name age / style(Column)=data_female;
  var height weight;
run; quit;
ods tagsets.ExcelXP close;
```

42

## Use the New Elements – Name & Age Only

Name	Age	Height	Weight
Alfred	14	69	112.5
Henry	14	63.5	102.5
James	12	57.3	83
Jeffrey	13	62.5	84
John	12	59	99.5
Philip	16	72	150
Robert	12	64.8	128
Ronald	15	67	133
Thomas	11	57.5	85
William	15	66.5	112

Name	Age	Height	Weight
Alice	13	56.5	84
Barbara	13	65.3	98
Carol	14	62.8	102.5
Jane	12	59.8	84.5
Janet	15	62.5	112.5
Joyce	11	51.3	50.5
Judy	14	64.3	90
Louise	12	56.3	77
Mary	15	66.5	112

43

## Change/Add Style Elements/Attributes

```
style data_male from data /  
  background=#99ccff;
```

```
style data_female from data /  
  background=#ff99cc;
```

```
style data_male_d1 from data_male /  
  tagattr='format:#.0';
```

```
style data_female_d1 from data_female /  
  tagattr='format:#.0';
```

New style elements (`data_male_d1`, `data_female_d1`) to add a new attribute (`tagattr`)

44

## Use the New Elements – Height & Weight

```
ods tagsets.ExcelXP style=XLsansPrinter file= ... ;
* Other ODS statements here...

proc print data=sashelp.class noobs;
  where (sex eq 'M');
  var name age / style(Column)=data_male;
  var height weight /
  style(Column)=data_male_d1;
run; quit;

* Other ODS statement here...

proc print data=sashelp.class noobs;
  where (sex eq 'F');
  var name age / style(Column)=data_female;
  var height weight /
  style(Column)=data_female_d1;
run; quit;

ods tagsets.ExcelXP close;
```

45

## Use the New Elements

- Gender-appropriate background 😊
- 1 decimal place for Height and Weight
- Supported by PRINT, REPORT and TABULATE

Name	Age	Height	Weight
Alfred	14	69.0	112.5
Henry	14	63.5	102.5
James	12	57.3	83.0
Jeffrey	13	62.5	84.0
John	12	59.0	99.5
Philip	16	72.0	150.0
Robert	12	64.8	128.0
Ronald	15	67.0	133.0
Thomas	11	57.5	85.0
William	15	66.5	112.0


Name	Age	Height	Weight
Alice	13	56.5	84.0
Barbara	13	65.3	98.0
Carol	14	62.8	102.5
Jane	12	59.8	84.5
Janet	15	62.5	112.5
Joyce	11	51.3	50.5
Judy	14	64.3	90.0
Louise	12	56.3	77.0
Mary	15	66.5	112.0

46

## More on Excel Formats – Formatting 1/10


Excel Format	Display Value
0.0	0.1
0.00	0.10
##	.1
###	.1
#.0	.1

47

Copyright © 2011, SAS Institute Inc. All rights reserved.  THE POWER TO KNOW.

## More on ExcelXP Tagset Options

48

Copyright © 2011, SAS Institute Inc. All rights reserved.  THE POWER TO KNOW.

## 2010 Topic – "Automatic" Sheet Names

```
ods tagsets.ExcelXP options(sheet_interval='bygroup'
                             sheet_label='16.2');
```

```
proc report data= ... ;
  by protocol;
  ... ;
run; quit;

... ;
```

ABC 123 or XYZ 987

- BY value of `protocol` used in sheet name
- BY value preceded with "16.2"

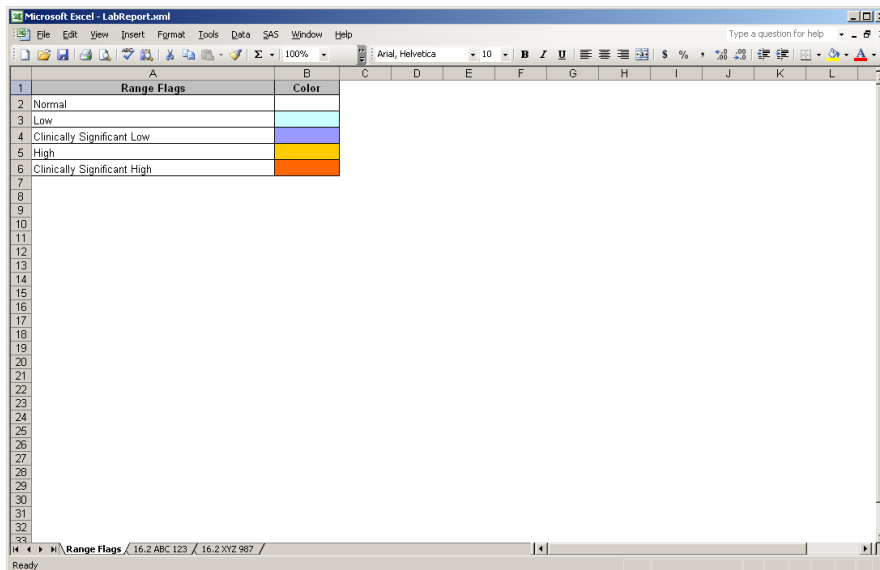
49

## 2010 Topic – "Automatic" Sheet Names

Treatment	Subject	Lab Site	Visit	Visit Date	Haemoglobin (g/L)	Haematocrit (%)	RBC (x10E12/L)	WBC (x10E9/L)	Abs. Lymphocytes (x10E9/L)	Abs. Monocytes (x10E9/L)
Control - Active	11	S11	1	17Jun2001	130	0.42	4	6.91	3.66	0.124
			2	19Jun2001	140	0.42	5	11.8	9.72	0.083
	13	G51	1	08Jun2001	130	0.36	4	10	6	0.11
			2	10Jun2001	90	0.28	3	6.1	3.172	0.061
	16	G51	1	07Jun2001	120	0.35	4	7.3	4.818	0
			2	09Jun2001	100	0.3	3	8.2	5.576	0.062
	17	A26	1	08Jun2001	150	0.45	5	11.76	8.41	0.09
			2	10Jun2001	130	0.4	4	18.61	15.6	0.06
	22	G51	1	10May2001	120	0.37	4	5.8	3.131	0.116
			2	12May2001	120	0.36	4	5.5	3.245	0.11
	24	G54	1	22Apr2001	130	0.38	4	10.3	2.95	0.954
			2	24Apr2001	120	0.35	4	8.1	5.103	0.486
	32	A92	1	21Jul2001	140	0.41	4	11	5.3	0.2
			2	23Jul2001	140	0.42	4	11.8	7.1	0.2
	36	A91	1	26Jun2001	140	0.41	5	8.1	5.994	0.081
			2	28Jun2001	130	0.37	4	8.7	5.915	0.087
	39	A92	1	29Sep2001	140	0.41	4	9.4	5	0.1
			2	01Oct2001	130	0.38	4	10.3	6.9	0.2
	48	G51	1	09Jun2001	110	0.34	4	5.6	2.656	0.28
			2	11Jun2001	90	0.28	3	9.6	7.776	0
			1	07Sep2001	140	0.41	4	7.8	4.68	0.078
	50	G01	1	07Sep2001	130	0.37	4	12	8.64	0
			2	09Sep2001	130	0.37	4	12	8.64	0
	56	S11	1	25Aug2001	150	0.47	5	7.18	4.16	0.416
			2	27Aug2001	130	0.42	4	11	8.66	0.11
	64	S11	1	07Sep2001	120	0.36	4	3.4	1.326	0.066
			2	09Sep2001	100	0.3	4	9.4	7.896	0
	66	A92	1	28Jun2001	90	0.29	4	5.3	2.9	0
			2	30Jun2001	90	0.28	4	5.4	3.4	0.1
	71	A92	1	30Jun2001	140	0.42	5	7.68	4.761	0.076

50

## 2010 Topic – "Automatic" Sheet Names



The screenshot shows a Microsoft Excel window titled "LabReportL.xml". The spreadsheet has two columns: "Range Flags" and "Color". The data is as follows:

Range Flags	Color
Normal	Light Blue
Low	Light Blue
Clinically Significant Low	Light Blue
High	Orange
Clinically Significant High	Orange

51

## 2010 Topic – Frozen Headers

```
ods tagsets.ExcelXP options(frozen_headers='yes'  
                           frozen_rowheaders='5');
```

```
proc report data= ... ;  
  by protocol;  
  ... ;  
run; quit;  
... ;
```

- Column headings "frozen" when scrolling
- Row headings (columns 1 – 5) also "frozen"

52

## 2010 Topic – Frozen Headers

	Haematology					Differential					
	Treatment	Subject	Lab Site	Visit	Visit Date	Abs. Lymphocytes (x10E9/L)	Abs. Monocytes (x10E9/L)	Abs. Neutrophils (x10E9/L)	Abs. Eosinophils (x10E9/L)	Abs. Basophils (x10E9/L)	Platelets (x10E9/L)
197		47	G51	1	09Sep2001	5.04	0.168	2.436	0.756	0	362
198				2	10Sep2001	4.216	0.136	1.904	0.544	0	315
199		53	A91	1	01Sep2001	6.867	0.101	2.424	0.707	0	310
200				2	03Sep2001	6.296	0.084	2.35	0.658	0	277
201		54	A26	1	09May2001	6.83	0.02	1.22	0.31	0	330
202				2	11May2001	5.47	0.15	2.76	0.36	0.03	255
203		57	A26	1	17Jun2001	3.95	0.12	2.38	0.18	0.01	208
204				2	19Jun2001	5.67	0.12	2.03	0.32	0.04	178
205		59	A92	1	24Aug2001	3.6	0.5	2.2	0.3	0.1	222
206				2	26Aug2001	5.8	0.4	2.6	0.3	0.1	243
207		60	S11	1	18Jul2001	2.95	0.076	2.11	0.333	0.056	276
208				2	21Jul2001	10.9	0.013	0.978	0.775	0.013	211
209		67	G51	1	14Sep2001	9.443	0.133	2.793	0.798	0.133	329
210				2	18Sep2001	17.648	0	0.776	0.582	0.194	323
211		68	G51	1	04Apr2001	7.752	0	2.244	0.204	0.194	233
212				2	06Apr2001	10.274	0	2.527	0.389	0	235
213		77	A26	1	21Sep2001	4.575	0	1.22	0.305	0	226
214				2	23Sep2001	5.112	0.144	1.44	0.504	0	237
215		78	G51	1	09May2001	5.112	0.144	1.44	0.504	0	289
216				2	06May2001	4.964	0.068	1.088	0.612	0.068	289
217		96	G54	1	21Sep2001	4.898	0.395	2.133	0	0.079	271
218				2	26Sep2001	12.702	0	1.314	0.146	0	260
219		104	G54	1	28Jul2001	6.223	0.186	2.046	0.893	0.083	166
220				2	30Jul2001	9.76	0	1.708	0.122	0	175
221		108	A91	1	05Jul2001	2.352	0.196	1.813	0.539	0.049	221
222				2	07Jul2001	2.352	0.196	1.813	0.539	0.049	185

53

## 2010 Topic – Orientation & Scaling

```
ods tagsets.ExcelXP options(orientation='landscape'
                             scale='70');
```

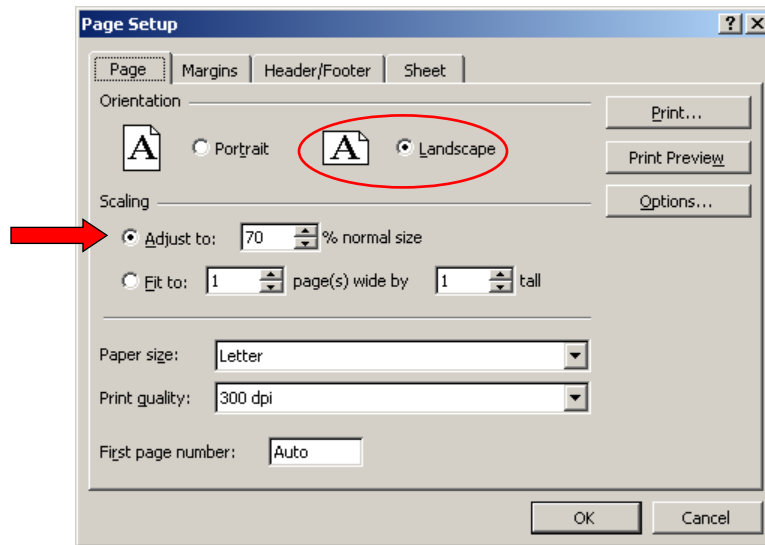
```
proc report data= ... ;
  by protocol;
  ... ;
run; quit;
```

```
... ;
```

- Landscape print orientation
- 70% print scaling

54

## 2010 Topic – Orientation & Scaling




55

More on  
ODS Style Overrides

56

## 2010 Topic – Traffic Lighting 101

```
proc print data= ... ;  
  var range;  
  var labflag;   
run; quit;
```

57

## 2010 Topic – Traffic Lighting 101

Have:

Range Flags	Color
Normal	0
Low	1
Clinically Significant Low	3
High	2
Clinically Significant High	4

58

## 2010 Topic – Traffic Lighting 101

Want:

Range Flags	Color
Normal	
Low	
Clinically Significant Low	
High	
Clinically Significant High	

59

## 2010 Topic – Traffic Lighting 101

```
❶ proc format;
  value labflag 0 = 'white'
                1 = '#CCFFFF'
                3 = '#9999FF'
                2 = '#FFCC00'
                4 = '#FF6600';

run; quit;

proc print data= ... ;
  var range;
❷ var labflag / style(Column)=[background=labflag.];
run; quit;
```



60

## 2010 Topic – Traffic Lighting 101

Range Flags	Color
Normal	0
Low	1
Clinically Significant Low	3
High	2
Clinically Significant High	4


61

## 2010 Topic – Traffic Lighting 101

```
proc format;
  value labflag 0 = 'white'
                1 = '#CCFFFF'
                3 = '#9999FF'
                2 = '#FFCC00'
                4 = '#FF6600';

run; quit;

proc print data= ... ;
  var range;
  var labflag / style(Column)=[background=labflag.
  ③ foreground=labflag.];
run; quit;
```



62

## 2010 Topic – Traffic Lighting 101

Range Flags	Color
Normal	
Low	
Clinically Significant Low	
High	
Clinically Significant High	

63

## 2010 Topic – Traffic Lighting 201

Treatment	Subject	Lab Site	Visit	Visit Date	Haemoglobin (g/L)	Haematocrit (%)	RBC	Abs. Lymphocytes (x10E9/L)	Abs. Monocytes (x10E9/L)	
Control - Active	11	S11	1	17Jun2001	130	0.41	4	3.66	0.124	
			2	19Jun2001	140	0.41	4	9.72	0.083	
	13	G51	1	08Jun2001	140	0.41	4	6	0.1	
			2	10Jun2001	140	0.41	4	3.172	0.061	
	16	G51	1	09Jun2001	140	0.41	4	7.3	4.818	0
			2	11Jun2001	140	0.41	4	8.2	5.576	0.082
	17	A92	1	09Jun2001	140	0.41	5	11.76	8.41	0.09
			2	11Jun2001	140	0.41	4	18.61	15.6	0.06
			3	11Jun2001	140	0.41	4	5.8	3.131	0.116
			4	11Jun2001	140	0.41	4	5.5	3.245	0.11
			5	11Jun2001	130	0.38	4	5.9	2.95	0.354
			6	11Jun2001	120	0.35	4	8.1	5.103	0.486
			7	21Jul2001	140	0.41	4	11	5.3	0.2
			8	23Jul2001	140	0.42	4	11.8	7.1	0.2
	A91		1	26Jul2001	140	0.41	5	8.1	5.994	0.081
			2	28Jul2001	130	0.37	4	8.7	5.915	0.087
	39	A92	1	29Sep2001	140	0.41	4	9.4	5	0.1
			2	01Oct2001	130	0.38	4	10.3	6.9	0.2
	48	G51	1	09Jun2001	110	0.34	4	5.6	2.856	0.28
			2	11Jun2001	90	0.28	3	9.6	7.778	0
	50	G01	1	07Sep2001	140	0.41	4	7.8	4.68	0.078
			2	09Sep2001	130	0.37	4	12	8.64	0
	56	S11	1	25Aug2001	150	0.47	5	7.18	4.16	0.416
			2	27Aug2001	130	0.42	4	11	8.66	0.11
	64	S11	1	07Sep2001	120	0.36	4	3.4	1.326	0.058
			2	09Sep2001	100	0.3	4	9.4	7.896	0
	66	A92	1	28Jul2001	90	0.29	4	5.3	2.9	0.2
			2	30Jul2001	80	0.28	4	5.4	3.4	0.1
	71	A92	1	20Jul2001	140	0.41	5	7.68	4.761	0.07

64

## Conclusion

- Use ExcelXP tagset to create XML file
- Resulting XML file can be viewed with Excel
- Make use of tagset options
- Apply ODS style overrides carefully
- Use Excel formats instead of SAS formats

65

## Resources

- "An Introduction to Creating Multi-Sheet Microsoft Excel Workbooks the Easy Way with SAS"  
<http://www.sas.com/reg/gen/corp/867226?page=Resources>  
(Ignore wrapping in above URL)
- "Reporting Procedure Styles Tip Sheet"  
[support.sas.com/rnd/base/ods/scratch/reporting-styles-tips.pdf](http://support.sas.com/rnd/base/ods/scratch/reporting-styles-tips.pdf)  
(Ignore wrapping in above URL)

66

## Contact Information

Please send questions, comments and feedback to:

Vince DelGobbo  
sasvcd@SAS.com

If your registered in-house or local SAS users group would like to request this presentation as your annual SAS presentation (as a seminar, talk or workshop) at an upcoming meeting, please submit an online User Group Request Form ([support.sas.com/usergroups/namerica/lug-form.html](http://support.sas.com/usergroups/namerica/lug-form.html)) at least eight weeks in advance.

67

Copyright © 2011, SAS Institute Inc. All rights reserved.

 **THE  
POWER  
TO KNOW.**