SAS Lesson 03

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`	

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`	

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`	

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`	

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`	

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`	

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`	

Changing and Canceling Titles and Footnotes

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`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`	

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`	

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`	

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`
	The First Line
	The Next Line

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`	

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`	

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`
	The First Line
	The Next Line

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`	

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`	

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`
	The First Line
	The Next Line

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`
	The Top Line

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`	

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`
	The First Line
	The Next Line

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`
	The Top Line

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`	

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`
	The First Line
	The Next Line

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`
	The Top Line

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`
	The Top Line
	
	The Third Line

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`
	The First Line
	The Next Line

`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`
	The Top Line

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`
	The Top Line
	
	The Third Line

Changing and Canceling Titles and Footnotes

PROC PRINT Code	Resultant Title(s)

`proc print data=orion.sales;`
`  title1 'The First Line';`
`  title2 'The Second Line';`
`run;`
	The First Line
	The Second Line

`proc print data=orion.sales;`
`  title2 'The Next Line';`
`run;`
	The First Line
	The Next Line

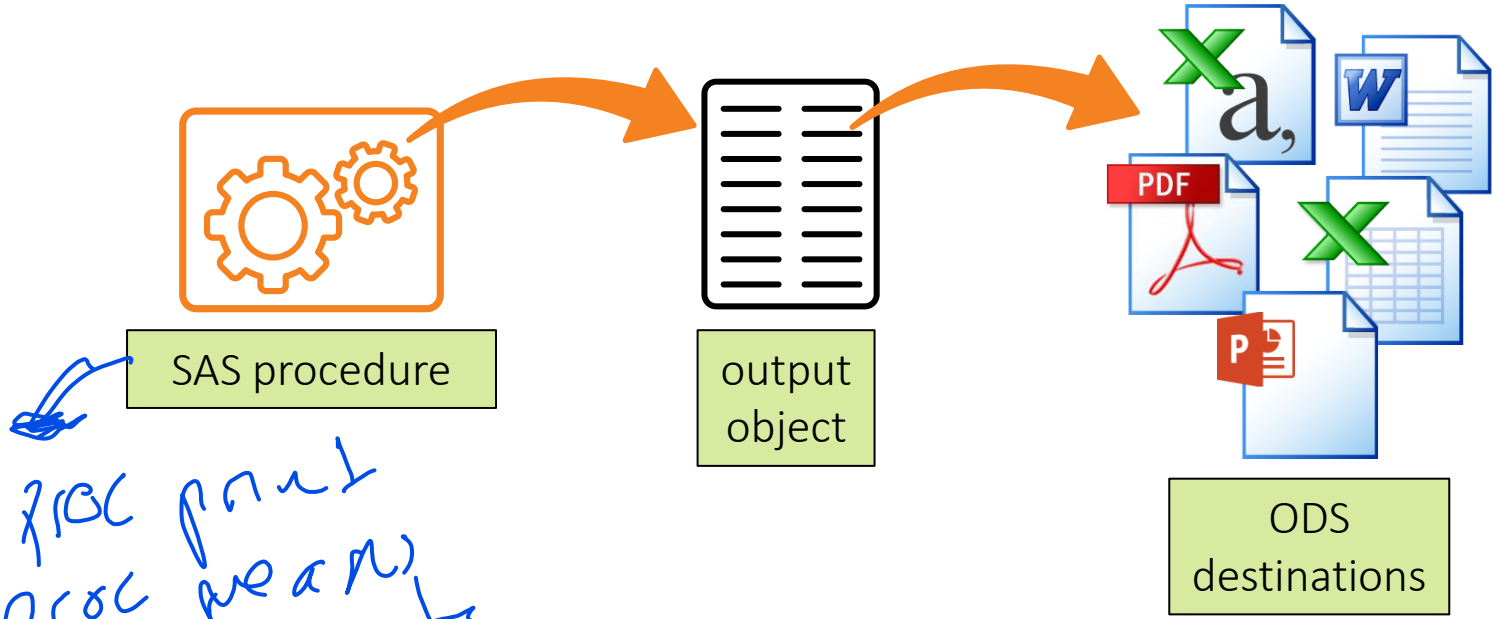
`proc print data=orion.sales;`
`  title 'The Top Line';`
`run;`
	The Top Line

`proc print data=orion.sales;`
`  title3 'The Third Line';`
`run;`
	The Top Line
	
	The Third Line

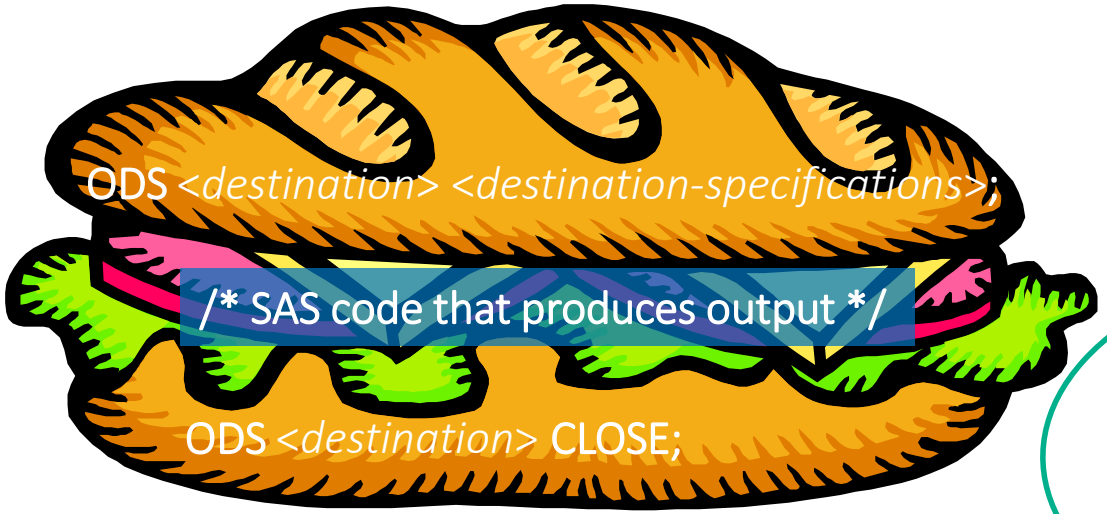
Creating Output

Prep Guide Chapter 16

Using the SAS Output Delivery System



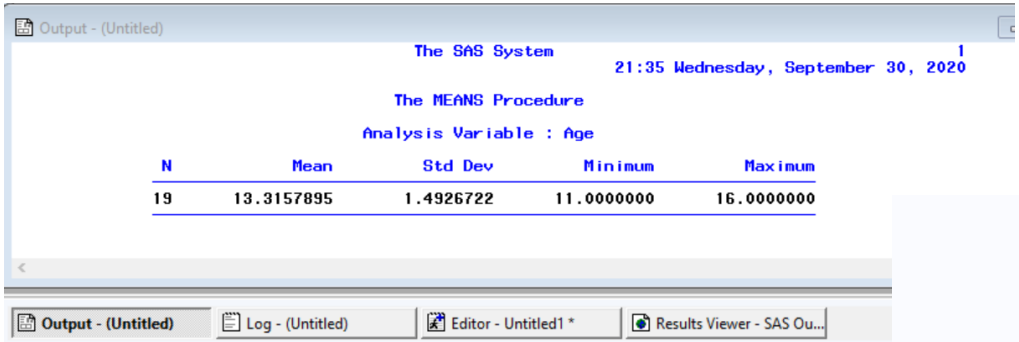
Using the SAS Output Delivery System



You can create
different file types
by changing
the destination
in the ODS statement.

Default ODS Destination

The LISTING destination was the default ODS destination until late 9.2. Since then it has been HTML.



The SAS System

The MEANS Procedure

Analysis Variable : Age				
N	Mean	Std Dev	Minimum	Maximum
19	13.3157895	1.4926722	11.0000000	16.0000000

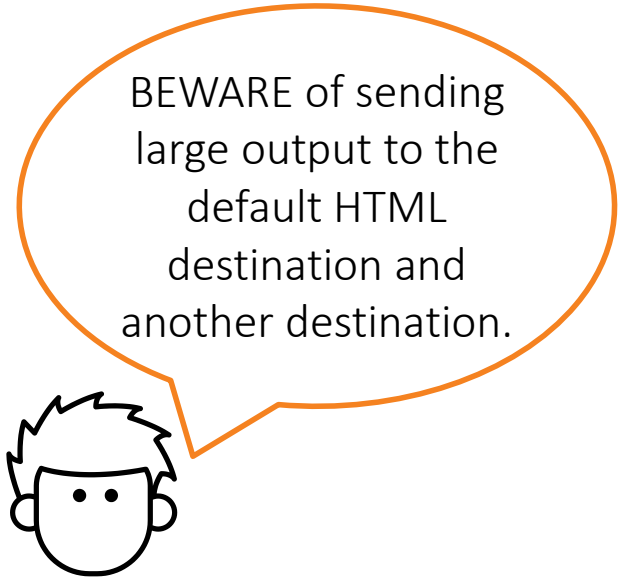
Multiple Destinations (Club Sandwich?)

Output can be sent to many destinations.

```
ods html close;
ods pdf file='example.pdf';
ods rtf file='example.rtf';

proc freq data=orion.sales;
   tables Country;
run;

ods pdf close;
ods rtf close;
```



To view the results, all destinations must be closed.

Multiple Destinations

Use _ALL_ in the ODS CLOSE statement to close all open destinations including the DEFAULT destination.

```
ods listing;
ods pdf file='example.pdf';
ods rtf file='example.rtf';

proc freq data=orion.sales;
   tables Country;
run;

ods _all_ close;
ods html path="%qsysfunc(pathname(work))";
```

Default ODS Destination

A warning will appear in the SAS log if the default destination is closed and no other destinations are active.

Partial SAS Log

```
23   ods _ALL_ close;
24
25   proc freq data=orion.sales;
26      tables Country;
27   run;

WARNING: No output destinations active.
NOTE: There were 165 observations read from the data set ORION.SALES.
```

Multiple Procedures

Output from many procedures can be sent to multiple ODS destinations, even of the same type. Use IDs to differentiate.

```
ods pdf (ID=both) file='both.pdf';
ods pdf (ID=one) file='one.pdf';

proc freq data=sashelp.class;
   tables sex;
run;

ods pdf (one) close;

proc means data=sashelp.class;
   var age;
run;

ods pdf (both) close;
```

STYLE= Option

Use a STYLE= option in the ODS destination statement to specify a style definition.

```
ODS destination FILE = 'filename.ext'
                STYLE = style-definition;
```

- A *style definition* describes how to display the presentation aspects such as colors and fonts of SAS output.
- STYLE= cannot be used with the LISTING destination.

SAS Supplied Style Definitions

```
proc print data=sashelp.vstyle;
run;
```

Exporting Results to PDF

```
ODS PDF FILE="filename.pdf"
          STARTPAGE=NO
          CONTENTS=YES
          BOOKMARKLIST=HIDE
          PDFTOC=n;
ODS PROCLABEL "label";
/* SAS code that produces output */
ODS PDF CLOSE;
```

Exporting Results to PDF

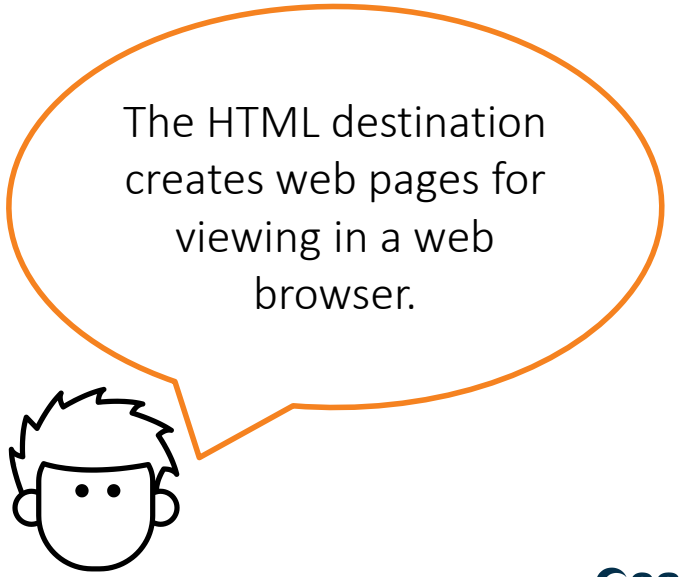
- **STARTPAGE=YES|NO|NOW** controls when new pages are created
- **CONTENTS=YES** specifies that a printable table of contents is created
- **BOOKMARKLIST=HIDE|NONE|SHOW** controls bookmark list within file
- **PDFTOC=***n* controls level of bookmarks that are open
- **NOTOC** turns off both CONTENTS and BOOKMARKLIST
- **ODS PROCLABEL "***label***";** defines label for bookmark
- ODS PDF statement can be used multiple times while open to change options.

Exporting Results to PDF

This demonstration illustrates using the ODS PDF destination to export reports to a PDF file.

Exporting Results to HTML

```
ODS HTML PATH= " c:\user\certuser“
              BODY|FILE="filename.html"
              (URL=none)
              CONTENTS="toc.html"
              FRAME=“frame.html"
             ;
/* SAS code that produces output */
ODS HTML CLOSE;
```



Exporting Results to HTML

- **PATH=** specifies the location of the files
- **BODY|FILE=** specifies the file that contains the html output
- **CONTENTS=** name of table of contents file with links to output
- **FRAME=** name of file that integrates body and table of contents
- **URL=** sub-option to control location of body and contents files (NOTE: Use relative URLs to allow HTML package to be easily relocated.)

Exporting Results to HTML

This demonstration illustrates using the ODS HTML destination to export reports to a Web Page.

Exporting Results to Excel

```
ODS EXCEL FILE="filename.xlsx" STYLE=style
      OPTIONS(SHEET_NAME='label'
            EMBEDDED_FOOTNOTES='on'
            EMBEDDED_TITLES='on'
            SHEET_INTERVAL='bygroup'
            SUPPRESS_BYLINES='yes');

 /* SAS code that produces output */

ODS EXCEL CLOSE;
```

By default, the results from each procedure are on separate worksheets in the Excel file.

Exporting Results to Excel (Sub-Options)

- **SHEET_NAME=** specifies the **full** name of the **next** worksheet
- **SHEET_LABEL=** specifies the **prefix** for the worksheet **names**
  - Especially useful with **bygroup** interval
- **EMBEDDED_FOOTNOTES=** specifies whether footnotes appear in worksheet
- **EMBEDDED_TITLES=** specifies whether titles appear in worksheet
- **SHEET_INTERVAL**= specifies the criteria for when a new worksheet is created
- **SUPPRESS_BYLINES**= specifies whether BY lines appear in worksheet

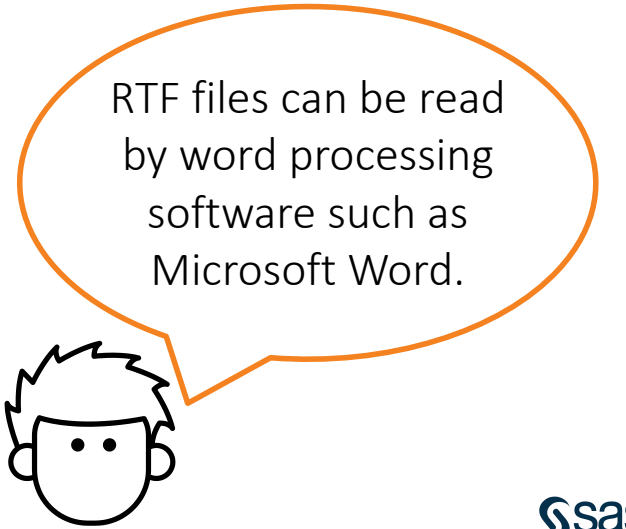
Exporting Results to Excel

This demonstration illustrates using the ODS EXCEL destination to export reports to multiple worksheets in an Excel workbook.

Exporting Output to PowerPoint and Microsoft Word

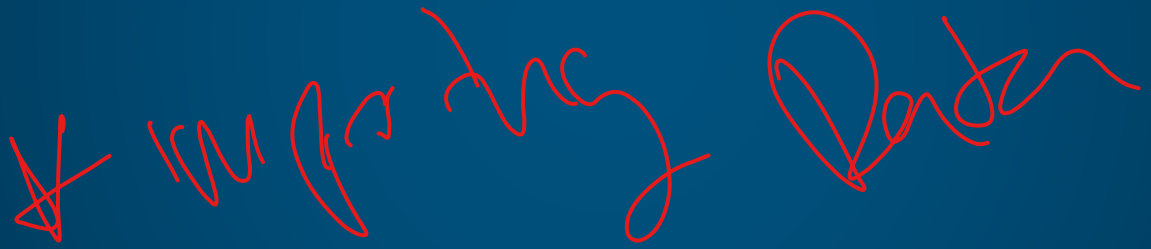
```
ODS POWERPOINT FILE="filename.pptx" STYLE=style;
/* SAS code that produces output */
ODS POWERPOINT CLOSE;
```

```
ODS RTF FILE="filename.rtf" STARTPAGE=NO;
/* SAS code that produces output */
ODS RTF CLOSE;
```



Accessing Data

Importing Data into SAS – Prep Guide Chapter 4



Assigning a File Reference

You can use the *FILENAME statement* to assign a file reference name (fileref) to an external file.

General form of the FILENAME statement:

FILENAME *fileref* ‘*external-file*' <*options*>**;**

Rules for naming a fileref:

- The name must be 8 characters or less.
- The name must begin with a letter or underscore.
- The remaining characters must be letters, numerals, or underscores.

Assigning and Using a Fileref

Windows Example:

Assigning

```
filename pdfrep1 'c:\users\certuser\Assign6.pdf';
```

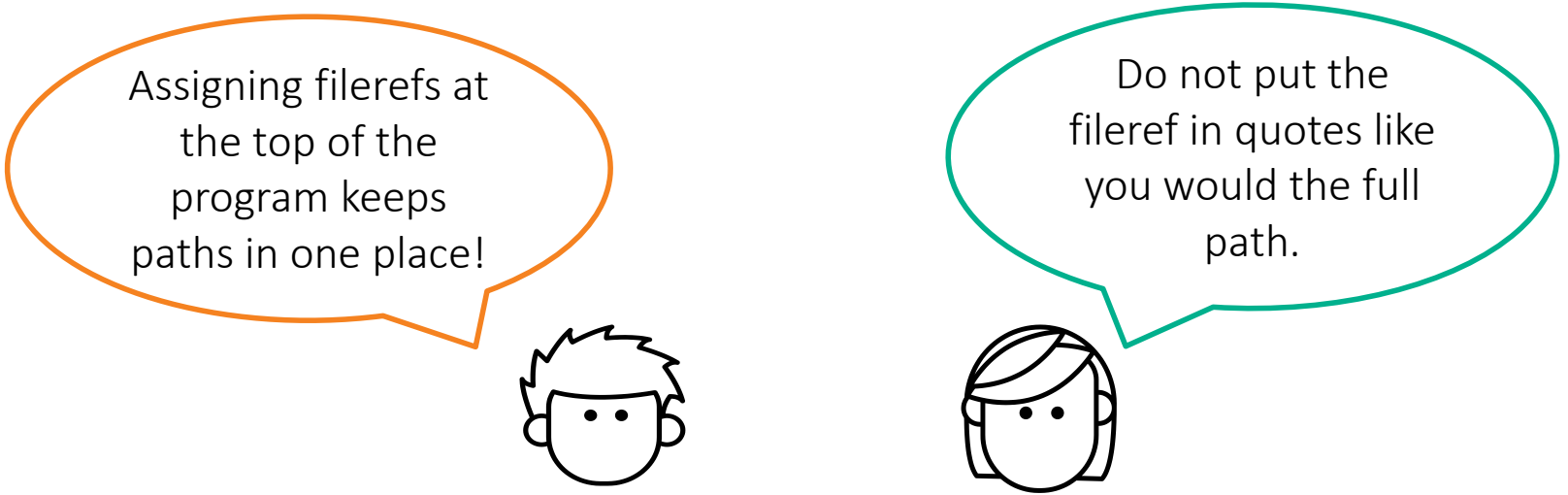
```
FILENAME OUT FTP '/home/ftpas/dialog.txt'
       host='ftpsrv.tamu.edu'
       user='ftpas' pass='ftppass' lrecl=2437
       rcmd='site umask 022'
       /* Set permissions to -rw-r--r--    */
;
```

Assigning and Using a Fileref

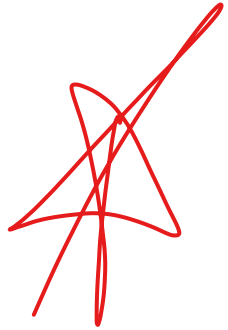
Windows Example:

Using

```
ods pdf file = pdfrep1 notoc;
```



Reviewing Concepts



- Libref (libname) = alias to a collection of tables
- Fileref (filename) = alias to a single file
- Raw text files are not considered tables and cannot be accessed through a libref
- Both librefs and filerefs can be read from and written to
- Same naming rules apply to both

Lesson Quiz

6. Which LIBNAME statement has the correct syntax for reading a Microsoft Excel file?

a. `libname excel "filepath/myexcelfile";`

b. `libname mydata xlsx "filepath/myexcelfile";`

c. `libname mydata xlsx "filepath/field_data.xlsx";`

6. Which LIBNAME statement has the correct syntax for reading a Microsoft Excel file?

a. `libname excel "filepath/myexcelfile";`

b. `libname mydata xlsx "filepath/myexcelfile";`

c. `libname mydata xlsx "filepath/field_data.xlsx";`