

SAS® ODS EXCEL Destination: Using the START_AT sub-option to place your data where you want it on the Excel Worksheet.

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ABSTRACT

The SAS ODS Excel destination statement option called "OPTIONS" has many sub-options. One of those sub-options is START_AT which allows you to place your output anywhere on the open output Excel worksheet. I will show you how the put your starting output data element into any row and column in the open worksheet.

INTRODUCTION

This paper is one of a series of short papers each describing one suboption element of the ODS Excel Destination. Here I will list the available "Actions", "Options", and "Suboptions" and describe one feature of the ODS Excel Destination. Unlike the ODS tagset called EXCELXP, the ODS Excel Destination cannot be modified by you the SAS user. This paper is being presented as a 10 minute paper and therefore can only cover a small focused topic. The ODS Excel Destination has over 65 "Actions", "Options", and "Suboptions" available.

PROBLEM

The ability to output SAS data and graphs to Microsoft Excel workbooks has long been something that both SAS and Excel users have wanted. SAS users want better ways to output more detailed and complex data because their boss wants the data in an Excel workbook. Excel users want the data in Excel because they can easily process "What – If ..." questions. Therefore, both SAS and Excel users really want better ways to produce Excel workbooks.

ODS EXCEL DESTINATION FEATURE DESCRIPTION

ODS Excel Destination "Actions", "Options", and "Suboptions" work with different parts of the Excel Workbook. This paper will describe one "Action" associated with the ODS Excel Destination software called the start_at suboption. This suboption of the "OPTIONS" option resents one of the most asked questions I get about creating Excel worksheets. "How can I put the output SAS data somewhere other than Column 'A' and Row '1'?"

ODS EXCEL DESTINATION "ACTIONS", "OPTIONS", AND "SUBOPTIONS"

The following tables list the full list of "Actions", "Options", and "Suboption" available for the ODS Excel Destination as presented in SAS V9.4 (TS1M3).

List of ODS Excel Actions

Actions Include	
NONE	Sends Excel output to the SAS Default output directory. Depending on your version of SAS, the default directory is shown in the bottom left or right side of the display manager window.
CLOSE	Closes an ODS EXCEL statement with or without an ID= option.
EXCLUDE	An ODS EXCLUDE statement prevents an ODS object from being output.
SELECT	An ODS SELECT statement includes an ODS object in the output.
SHOW	An ODS SHOW statement writes the current selection or exclusion list to the log

List of ODS Excel Options

Optional Arguments		
ANCHOR=	AUTHOR=	BOX_SIZING=
CATEGORY=	COMMENTS=	CSSSTYLE=
DOM=	DPI=	FILE=
GFOOTNOTE	NOGFOOTNOTE	GTITLE
NOGTITLE	IMAGE_DPI=	KEYWORDS=
ID=	OPTIONS	SASDATE
STATUS=	STYLE=	TEXT=
TITLE=	WORK=	

Suboptions of the OPTIONS option of the ODS EXCEL statement

Suboptions of the OPTIONS Argument	
ABSOLUTE_COLUMN_WIDTH=	ABSOLUTE_ROW_HEIGHT=
AUTOFILTER=	BLACKANDWHITE=
BLANK_SHEET=	CENTER_HORIZONTAL=
CENTER_VERTICAL=	COLUMN_REPEAT=
CONTENTS=	DPI=
DRAFTQUALITY=	EMBEDDED_FOONOTES=
ENBED_FOOTNOTES_ONCE=	EMBEDDED_TITLES=
EMBED_TITLES_ONCE=	FITTOPAGE=
FORMULAS=	FROZEN_HEADERS=
FROZEN_ROWHEADERS=	GRIDLINES=
HIDDEN_COLUMNS=	HIDDEN_ROWS=
INDEX=	MSG_LEVEL=
ORIENTATION=	PAGE_ORDER_ACROSS=
PAGES_FITHEIGHT=	PAGES_FITWIDTH=
PRINT_AREA=	PRINT_FOOTER=
PRINT_FOOTER_MARGIN=	PRINT_HEADER=
PRINT_HEADER_MARGIN=	ROWBREAKS_COUNT=
ROWBREAKS_INTERVAL=	ROWCOLHEADINGS=
ROW_HEIGHTS=	ROW_REPEAT=
SCALE=	SHEET_INTERVAL=
SHEET_LABEL=	SHEET_NAME=
START_AT=	SUPPRESS_BYLINES=
TAB_COLOR=	TITLE_FOOTNOTE_NOBREAK=
TITLE_FOOTNOTE_WIDTH=	ZOOM=

THE ODS EXCEL DESTINATION SYNTAX

Simple ODS Syntax for the ODS EXCEL destination.

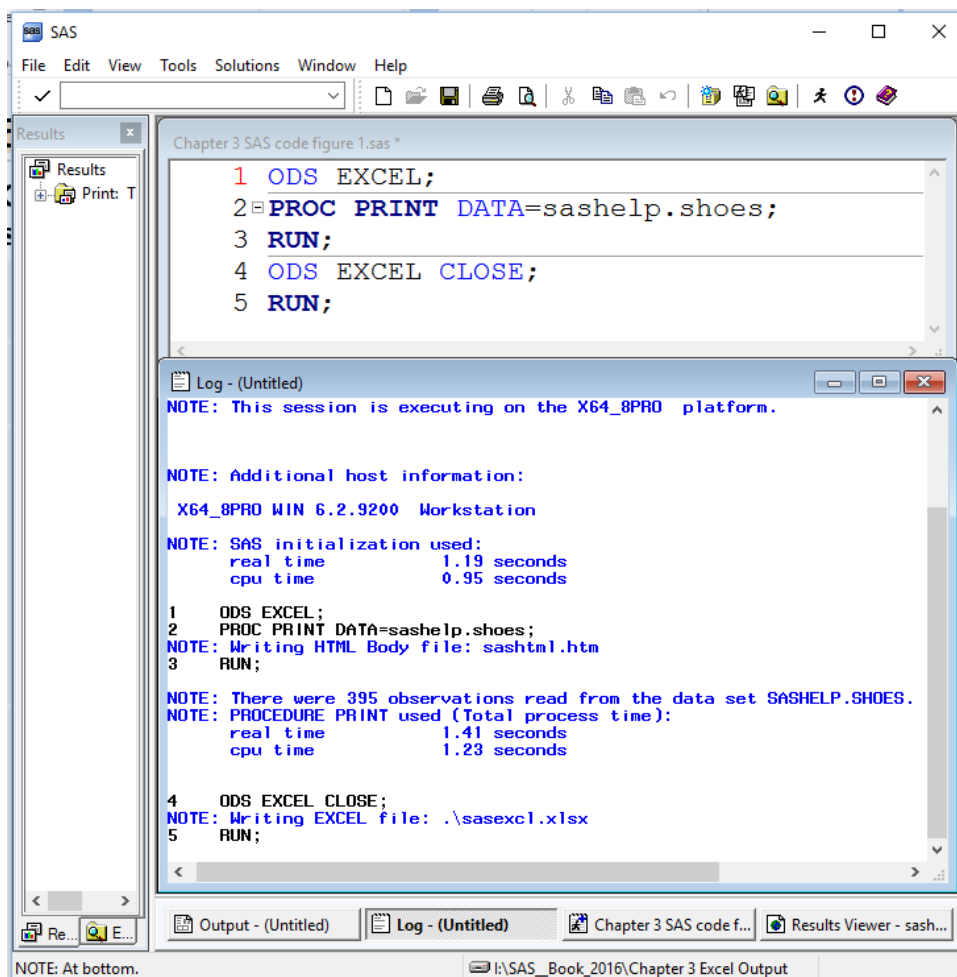
```
ODS EXCEL <(<ID=> identifier)> <action> ;
ODS EXCEL <(<ID=> identifier)> <option(s)> ;
```

The SAS ODS Excel destination syntax shown above is just the tip of the iceberg. As shown, everything except “ODS

EXCEL;" is optional. One thing to point out is that there is an "Argument" called "OPTIONS" that has many "SUB-OPTIONS", they are described in the SAS HELP under the Base SAS 9.4 (TS1M3) topic "ODS EXCEL Statement. In its simplest form the following SAS code will produce an Excel workbook. As shown here.

```
ODS EXCEL;  
PROC PRINT DATA=sashelp.shoes;  
RUN;  
ODS EXCEL CLOSE;
```

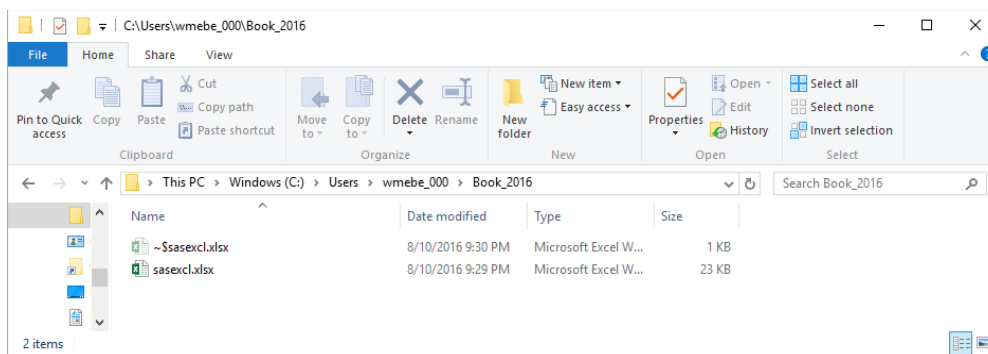
The SAS output looks like this, note that without a FILE= statement the output Excel Workbook goes to the current default directory with the default file name sasexcl.xlsx. The sheet name is also a default name composed of the procedure name and the SAS Dataset name.



The Excel output workbook looks like the following. On the bottom of the PC SAS display manager window the default output directory name is listed. The actual location on the screen varies depending on the version of SAS that you are using. This form of execution selects the filename at execution time, while the FILE= option enables you to select an output filename. In this example, the name defaults to sasexcl.xlsx, but on other operating systems the default name might be different. Depending on the operating system that the SAS code was running on, and the TOOLS> Options> Preferences "Results" tab selections, the output EXCEL workbook can be forced open using EXCEL.

Obs	Region	Product	Subsidiary	Stores	Sales	Inventory	Returns
1	Africa	Boot	Addis Ababa	12	\$29,761	\$191,821	\$769
2	Africa	Men's Casual	Addis Ababa	4	\$67,242	\$118,036	\$2,284
3	Africa	Men's Dress	Addis Ababa	7	\$76,793	\$136,273	\$2,433
4	Africa	Sandal	Addis Ababa	10	\$62,819	\$204,284	\$1,861
5	Africa	Slipper	Addis Ababa	14	\$68,641	\$279,795	\$1,771
6	Africa	Sport Shoe	Addis Ababa	4	\$1,690	\$16,634	\$79
7	Africa	Women's Casual	Addis Ababa	2	\$51,541	\$98,641	\$940
8	Africa	Women's Dress	Addis Ababa	12	\$108,942	\$311,017	\$3,233
9	Africa	Boot	Algiers	21	\$21,297	\$73,737	\$710
10	Africa	Men's Casual	Algiers	4	\$63,206	\$100,982	\$2,221
11	Africa	Men's Dress	Algiers	13	\$123,743	\$428,575	\$3,621
12	Africa	Sandal	Algiers	25	\$29,198	\$84,447	\$1,530
13	Africa	Slipper	Algiers	17	\$64,891	\$248,198	\$1,823
14	Africa	Sport Shoe	Algiers	9	\$2,617	\$9,372	\$168
15	Africa	Women's Dress	Algiers	12	\$90,648	\$266,805	\$2,690
16	Africa	Boot	Cairo	20	\$4,846	\$18,965	\$229
17	Africa	Men's Casual	Cairo	25	\$360,209	\$1,063,251	\$9,424
18	Africa	Men's Dress	Cairo	5	\$4,051	\$45,962	\$97
19	Africa	Sandal	Cairo	9	\$10,532	\$50,430	\$598
20	Africa	Slipper	Cairo	9	\$13,732	\$54,117	\$1,216
21	Africa	Sport Shoe	Cairo	3	\$2,259	\$20,815	\$44
22	Africa	Women's Casual	Cairo	14	\$328,474	\$940,851	\$10,124
23	Africa	Women's Dress	Cairo	3	\$14,095	\$51,145	\$745
24	Africa	Boot	Johannesburg	14	\$8,365	\$33,011	\$483

The windows output directory is shown below; the directory was empty before the SAS code was executed. Afterward, the directory shows the output Excel workbook. Since the workbook was opened the temporary file generated by Excel is also visible.



THE START_AT SUBOPTION

The syntax for the ODS Excel Destination “OPTIONS” feature looks something like the following.

```
ODS EXCEL OPTIONS(suboption_1=parms_1 suboption_2=parms_2 ... suboption_n=parms_n);
```

The information about the START_AT SUBOPTION is listed below.

Action Parameter	Options	Description
START_AT	'x,y' where x is a row number and y is a column number. Default = '1,1'	A string that indicates the starting ROW and COLUMN in the Excel worksheet where the output data is to start being output. This cannot be changed within a sheet. SAS 9.4M4 allows the use of alphabetic characters for the 'Column' value as in 'D4'.

The START_AT= suboption is a handy way to place your output into the Excel worksheet somewhere other than the default top-left corner of the worksheet (cell A1). This suboption gives you the freedom to place the output into any row and column of your output worksheet, allowing you to move your data under rows of blank cells. CSS style sheets can be used to add images into the worksheet, and the START_AT= suboption can be used to position your data. SAS 9.4M4 also has added the ability to use alphabetic characters for the column identifiers as in cell "A1". The value '4,5' is 'Column,Row' format.

Using the START_AT= Suboption to Offset the Data within the Excel Worksheet

```
ods excel file = "&path\Starting_at.xlsx"

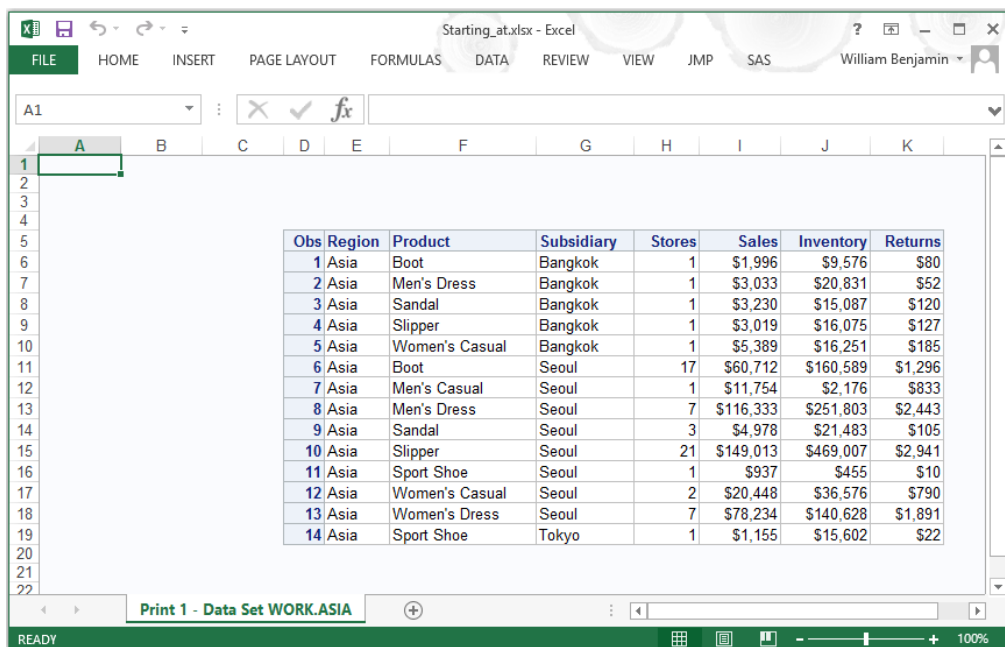
      options(start_at='4,5');

proc print data=Asia_only;

run;

ods excel close;
```

Showing the Output Data Offset to cell 'D5', Column 4, Row 5



Obs	Region	Product	Subsidiary	Stores	Sales	Inventory	Returns
1	Asia	Boot	Bangkok	1	\$1,996	\$9,576	\$80
2	Asia	Men's Dress	Bangkok	1	\$3,033	\$20,831	\$52
3	Asia	Sandal	Bangkok	1	\$3,230	\$15,087	\$120
4	Asia	Slipper	Bangkok	1	\$3,019	\$16,075	\$127
5	Asia	Women's Casual	Bangkok	1	\$5,389	\$16,251	\$185
6	Asia	Boot	Seoul	17	\$60,712	\$160,589	\$1,296
7	Asia	Men's Casual	Seoul	1	\$11,754	\$2,176	\$833
8	Asia	Men's Dress	Seoul	7	\$116,333	\$251,803	\$2,443
9	Asia	Sandal	Seoul	3	\$4,978	\$21,483	\$105
10	Asia	Slipper	Seoul	21	\$149,013	\$469,007	\$2,941
11	Asia	Sport Shoe	Seoul	1	\$937	\$455	\$10
12	Asia	Women's Casual	Seoul	2	\$20,448	\$36,576	\$790
13	Asia	Women's Dress	Seoul	7	\$78,234	\$140,628	\$1,891
14	Asia	Sport Shoe	Tokyo	1	\$1,155	\$15,602	\$22

Often a company will have a logo used specifically to brand corporate Excel spreadsheets. This option gives you a way to free up space for that logo (or anything else) without having to manually move the data. See Chapter 6 for using CSS style options to add images.

CONCLUSION

The ODS Excel Destination START_AT suboption gives you the ability your move your data to any location inside the worksheet. This has been one of the most frequently asked questions I have gotten about sending data from SAS to Excel. This feature makes it almost effortless to do that job, without opening the workbook. Doing it while the workbook is being built is also a big time saver.

REFERENCES

SAS Institute Inc. 2016. SAS® 9.4 Output Delivery System: User's Guide, Fifth Edition. Cary, NC: SAS Institute Inc.

Benjamin, William E., Jr. 2017. *Exchanging Data From SAS to Excel: The ODS Excel Destination*. Cary, NC: SAS Institute Inc.

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