

Including SAS® Software Text Output into a Microsoft® Word Document

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ABSTRACT

It is often necessary to incorporate SAS® system output into a report. Due to the extensive use of Microsoft® software, Word has often become the document processor of choice in businesses. We will explore a couple of quick, easy techniques for generating SAS system output and incorporating it into a Word document.

BACKGROUND

No matter what business you are in, there is a need for printed communication. Often, this is in the form of a report or some other document which distributes information and conclusions based on that information. Due to the wide use of Microsoft business software packages, Microsoft Word has become the document processing software of choice for many companies. Similarly, the SAS system has become the information management and analysis package of choice for many companies.

The SAS system provides powerful tools for visualization and reporting of data. However, sometimes it isn't clear how we can transfer the information from SAS system output to a Word document and make it appear in a style that is compatible with the document as a whole. This paper will provide some tips on easy ways to do this. These techniques were developed using SAS Version 6.12 and Microsoft Word Version 7.0a.

PROCEDURE OUTPUT

In a comprehensive report, there will usually be an appendix or appendices which list the data used in the analysis and summary portions of the report. Additionally, there may be a section reserved for the detailed analysis output. The listings are easily generated using base SAS procedures such as PRINT, REPORT, and TABULATE. Detailed analysis output is generated by SAS/STAT® procedures like MEANS, GLM, and UNIVARIATE.

These procedure outputs may be incorporated into a Word document in a couple of ways. First, the output can be generated to the SAS Display Manager Output Window. The text can then be selected by a click-and-drag and copied to the clipboard. Then, the clipboard is pasted into the Word document.

Another method is to route the output to a text file using PROC PRINTTO, then insert the file into the Word document. In both methods, there are some considerations of which to be aware. One is that SAS system output is generated in a monospace font type. This means that each character, including spaces, takes up exactly one space in the output line. If Word is set to default to a proportionally spaced font, such as Times New Roman, then, when the output is inserted into Word, it will be misaligned. You will need to select the text that has been inserted or pasted, and change the font to a non-proportional font, such as Courier or SAS Monospace.

Another consideration is line width. We have found that for a standard landscape page in Word, a line size of 155 in SAS works quite well. The number of lines per pages is 43. This allows a top margin of 1½ inches and a bottom margin of 1 inch. If your output has only a few lines per page and also has a footnote, be aware that the titles and print lines will begin on the first line and the footnote will be on the last line. This can cause a lot of 'white space' on the page. You will want to review your output before inserting it and adjust the PAGESIZE option accordingly. The inserted text is able to be edited by Word, so you can delete blank lines that way as well.

TABLES

Aside from 'raw' data listings and analysis output, there will probably be some summary tables in the report as well. Since these tables make up the heart of the report, they are often required to adhere to style constraints. A particular type face and font size is required.

Often, a non-proportional font will not be allowed. How to generate SAS system output that will fit the guidelines?

Our solution has been to use the DATA _NULL_ with PUT statements to build the output file. The output is routed to a text file and is delimited by tab characters. The ASCII tab character is an '09'x. The SAS system processes each record and outputs the selected fields with the tab character between each field. The DATA _NULL_ gives ultimate control over the format of the output line, but can be tedious programming.

On the Word end of this technique, the titles and column headers are typed in and a blank line created containing the tab stops for the table data. When the text file is inserted, it uses default tab stops and the columns will most likely not be aligned correctly. Selecting the blank line which has the correct tab stops set, then 'painting' the format over the inserted text, will align the columns. The tab stops that will most often be used are the left-aligned tab and the decimal-aligned tab.

SUMMARY

SAS system procedure output may be inserted into a Word document from either the paste buffer or clipboard or as an inserted file. This output is in a monospace format which will need to be duplicated within the Word document in order for columns to be properly aligned.

Summary tables can be created by using the DATA _NULL_ - PUT technique with tab characters delimiting individual fields. The tab characters will align the fields when the output is inserted into the Word document based upon the tab sets defined within Word.

These are just a couple of techniques that can be used to incorporate SAS text output into a Word document. We have found that these are quick, easy, and work for a variety of applications.

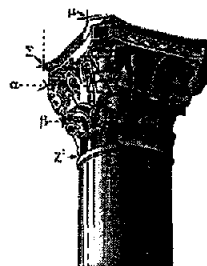
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