

An Overview of Three New Output Delivery System Procedures in SAS® 9.4: ODSTABLE, ODSLIS and ODSTEXT

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ABSTRACT

The SAS® Output Delivery System (ODS) enables programmers to create and manipulate predefined ODS objects in a DATA step to create highly customized output. ODS gives you great flexibility in generating, storing, and reproducing SAS® procedures and DATA step output, with a wide range of formatting options.

You can use ODS to accomplish the following tasks:

- Create reports for viewers or browsers
- Customize the report contents
- Customize the presentation
- Create more accessible SAS output

By default, ODS output is formatted according to instructions that a PROC step or DATA step defines. However, ODS provides ways for you to customize the output. You can customize a single table, graph or the style for all your output.

SAS® 9.4 contains many ODS enhancements. One of these enhancements are three new ODS procedures:

- PROC ODSTABLE
- PROC ODSLIS
- PROC ODSTEXT

These new ODS procedures allow for the creation of specific types of outputs. You can create your own new tabular output templates with ODSTABLE, ODSLIS creates bulleted lists, and ODSTEXT can be used to create text block templates to generate lists and paragraphs for your output.

This paper will discuss these three new ODS procedures using SAS® version 9.4 and examples of how to use them will be given.

INTRODUCTION

Many of the SAS procedures produce output in a default format. This output can sometimes be displayed in a very “rough” format. Wouldn’t it be nice to customize the output to make it look more appealing? ODS can help you do just that! Using ODS you can customize the content of your output by selecting from a wide range of output formats and changing the appearance of the output to meet your needs. Formatting functionality is provided that is not available in the DATA step and other individual procedures. New ODS procedures have been introduced in SAS 9.4. This paper describes these new ODS procedures: ODSTABLE, ODSTEXT and ODSLIS.

PROC ODSTABLE

The ODSTABLE procedure is a simpler way of producing the same output that you would expect to get from using the DEFINE TABLE statement in PROC TEMPLATE. You can use the same statements in an ODSTABLE block as you would use in a DEFINE TABLE block in PROC TEMPLATE.

You can create your own new tabular output templates by using the ODSTABLE procedure. The Output Delivery System then uses these templates to produce customized tabular output. With the ODSTABLE procedure, you can create table templates and bind them with the input data set in one statement. You can also name your templates and store them in a template store.

PROC ODSLIS

Content can be created as text rather than tables using the ODSLIS procedure. PROC ODSLIS creates customizable bulleted lists and text templates that can be nested as many times as needed. A DATA=option can be

used to bind your data to a template without using a DATA step. By default, lists are created as unordered lists with a disc as the bullet type. Formats and style attributes can be used to further customize your content. When creating content using the ODS destination for PowerPoint and e-books it is necessary to use PROC ODSLST but PROC ODSLST can be used with any output destination. Formatted lists can be static content (i.e., strings) or based on data from a data set.

Many of the statements used in PROC TEMPLATE can be used in PROC ODSLST to create and customize list templates.

PROC ODSTEXT

The ODSTEXT procedure offers a powerful tool for inserting paragraph style text into your ODS destinations. Formatted text blocks can be static content (i.e., strings) or based on data from a data set. The ODSTEXT procedure helps us format paragraph text that would previously have been written with DATA _null_ / FILE PRINT logic or ODS <destination> TEXT= syntax. However, neither of these methods allow for elegant style control and line spacing, nor do either of those strategies integrate well with the table of contents. Using PROC ODSTEXT, formatted paragraphs of text (paragraphs or single words) can easily be created.

CONCLUSION

REFERENCES

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RECOMMENDED READING

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