

Creating HTML documents

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ABSTRACT

HTML documents are an excellent means of replacing lengthy reports with easily viewed and searchable material. Understanding the basics of HTML will help you create and modify reports. You can use DATA step programming to produce efficient output when space is limited, or the latest versions or modules of SAS are not available.

INTRODUCTION

The promise of the computer age to eliminate paperwork has eluded users. Most of us have experienced the opposite effect. Printed reports contain useful summaries and appropriate detail, but burrowing through a "doorstop" report can be frustrating and time-consuming. You may key information from the report into a spreadsheet for further analysis and graphic display. Imagine receiving a report that you can view, print, and search with a common software tool. HTML formatted reports viewed with a browser such as Internet Explorer or Netscape increase functionality while saving paper.

SAS HTML FORMATTING TOOLS

The SAS Institute has been active in helping SAS users generate HTML output. There are several macros (%OUT2HTML, %TAB2HTML, and %DS2HTML) available on the SAS Institute Web site for download, along with documentation on their use. These macros enable SAS to generate HTML formatted reports from procedures and tables, with considerable capability to customize appearance. Version 7 contains the SAS Output Delivery System (ODS), a feature that includes the ability to automatically create output from any SAS procedure in HTML, rich-text, Postscript, or PCL formats, and the ability to edit the output.

DYNAMIC CONTENT – SAS/INTRNET

You can run SAS programs through a web browser to create dynamic web content. You can create customized reports with SAS/INTRNET tools. You select criteria from a menu with your browser. Parameters pass to a SAS program running on a different platform. You can view, print, or cut and paste the results when they return to your browse.

DATA STEP HTML CODING

There is often a need, however, for less sophisticated approaches. Your working environment may not (yet) include SAS/INTRNET tools that enable you to create dynamic web content. The HTML macros are powerful and great for generating quick results, but at a price – size. Each cell in a table may contain many tags for format control: size, color, justification, etc. File size is very important if users are downloading pages via modem – smaller is faster. You can use one of the most basic tools in the SAS system to produce lean, mean HTML output – the DATA step.

HTML TAGS

The web browser interprets tag pairs in a document for display purposes. A few basic examples:

```
<HTML> Interpret until the end tag pair </HTML>
<TITLE> Title bar of browser </TITLE>
<HEAD> Report heading </HEAD>
<BODY> Body of the report</BODY>
<TABLE> Table some data </TABLE>
<B> Bold text </B>
<PRE> Pre-formatted text </PRE>
```

There are many more tags available to enhance and control the appearance of your product. Images can also be included.

DATA STEP EXAMPLE

A SAS table named YTDSALES has columns for product name, total sales, and commission. You need a report on the performance of the five leading products. Sort the table rows by descending total sales, and then present the top five names. The source code:

```
PROC SORT DATA=YTDSALES;
  BY DESCENDING TOTSALES;

DATA _NULL_;
  SET YTDSALES (OBS=5) END=EOF;
  FILE 'C:\TEMP\YTDSALES.HTM' NOTITLE;
  /* Header block prints first */
  IF _N_=1 THEN
    PUT '<HTML>' /
        /* Title bar of browser frame */
        '<TITLE>Acme Sales Leaders</TITLE>'
        /* Headers come in sizes: 1 is
largest */
        '<h2>Top 5 Sales Leaders in the
        Acme Widget Company</h2>' /
        '<h4>Fiscal Year 1999</h4>' /
        '<BODY>' /
        /* Begin preformatted text block */
        '<PRE>' /
        /* Column Header */
        @1 'Product name'
        @25 'Total Sales'
        @45 'Commission';
  /* Data: product name and numbers */
  PUT @1 NAME
      @25 TOTSALES comma11.
      @45 COMMISSN comma10.2;
```

```

/* Footer Block */
IF EOF THEN
  PUT /* End tag for preformatted text block */
    '</PRE>' /
    'No distribution rights allowed.'
    'Acme Widget Company' /
    '</BODY>' /
    '</HTML>' /;
RUN;

```

A more complex application may include hundreds of product names, groupings by product types, rankings by profitability, and trend information. Imbedded links enable you to construct indexes that allow navigation to reports with a click of a mouse button. Users can search quickly through your site to glean the information that they need, saving or printing only what they need.

You can use style sheets to create a customized appearance for your reports. Style sheets can change font, color, background, headers, footers, and other elements of your reports. Your company may already have corporate style sheets defined for use on its web site.

CONCLUSION

HTML documents are a great way to present information through a web browser. SAS tools help us generate HTML reports and graphics. Learning the basics of HTML will help you get started. The DATA step may still be an excellent choice to build a reporting system.

REFERENCES

There are excellent examples of programs on the SAS web site, www.sas.com, as well as information on more advanced tools such as style sheets. There are also HTML and web page design resources on the Internet. A tutorial by Jeff Barta at www.junior.apk.net/~barta will get you started. Follow links from this site to other sources of reference materials.

CONTACT INFORMATION

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