Paper 149-31

An Alternative Method of Producing Labels without the FORMS Procedure

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ABSTRACT

Many users of SAS® System software, especially those who want to print labels for mailing labels or external tape labels, are often confronted with difficulties on size and spacing. How to perfectly print names and addresses on standard labels such as those produced by Avery®?

While the PROC FORMS procedure is the traditional procedure to generate a variety of labels, it may not be possible to successfully obtain the desired output which is accurately suit the standard Avery® label product.

The techniques presented in the paper provide the user with more control on the placement parameters and fonts to facilitate printing data sets to labels. The features of the two methods are compared and discussed.

The ideas presented here were developed and tested using SAS® Release 8.2 (TS2M0) running under Windows XP®.

INTRODUCTION

Some users of SAS System software like maintaining an address book in a SAS data set. To facilitate printing data sets to labels, there is a need to obtain the desired output which fits a specific format for the standard labels such as those produced by Avery®. This can be achieved through a series of PROC TEMPLATE, DATA STEPS and PROC REPORT. Proc Template allows the user to redefine many elements of a custom document. Proc Report provides a wide array of formatting capabilities within its own domain.

SAMPLE DATA SET

The sample data set contains the names (first name, last name) and mailing addresses. The objective is to print one set of mailing labels consisting of one copy of the form unit for each observation on Avery® 11416....20 down, 4 across.

```
data list;
   input FirstName $ 1-13 LastName $15-22 University $ 24-45;
   datalines;
Jennifer      Cappel   Unive. of  Missouri
Marc          Berman   Unive. of  Cincinnati
Adam          Bell     Unive. of  Kentucky
Denise        Jack     Unive. of  Washington
James         Jordan   Unive. of  Michigan
Joe           Kaiser   Unive. of  Wisconsin
Stacy         Lampe    Unive. of  Georgia
Amy           Marshall Unive. of  Chicago
Mark          Martin   Unive. of  Arizona
Grace         Rice     Unive. of  California
;
run;
```

PROC FORMS

The PROC FORMS procedure could be used to generate a variety of labels

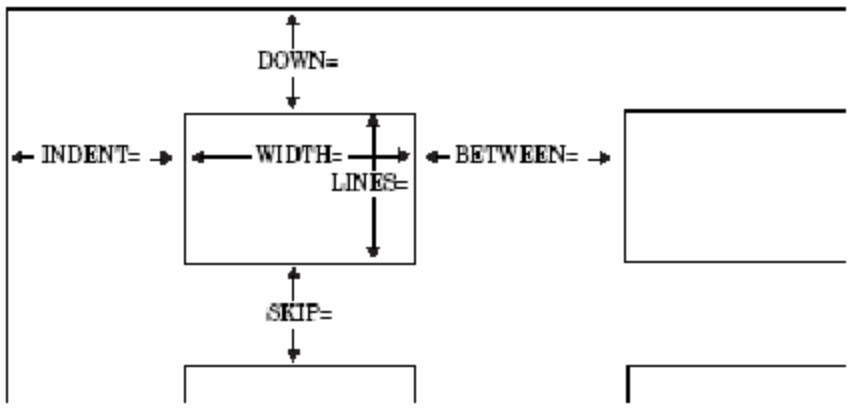
```
filename labels "C:\Forms.txt";
```

```
proc forms data=List file=labels
     ndown=20
     align=0
     width=22
     across=4
     down=0
     skip=1
        between=2
     ;
     line 1 FirstName LastName;
     line 2 University;
run;
```

The FILENAME statement associates the name LABELS with the external file that will receive the output from PROC FORMS.

FILE: sends the output to the file associated with the fileref LABELS.
NDOWN: prints 20 rows of form units on each page.
ALIGN: suppresses the printing of dummy form units.
WIDTH: sets the width of the form units to 22.
ACROSS: writes 4 form units across each page.
DOWN: suppresses the lines at the top of the file.
SKIP: skips 1 line between form units to maintain the proper alignment.
BETWEEN: puts 2 blank characters between adjacent form units.
The LINE statements specify the variables to place on each line. First Name and Last Name would be shown on the fist line. Universities are on the second line;

The size and spacing of form units are controlled by options such as DOWN, INDENT, WIDTH, LINES, BETWEEN as shown in below



Since these options were integers (not inches) and were used to specify the number of spaces or the number of lines. For some cases, it may not be possible to successfully make the perfect margin and size which suit the standard Avery® label product. Although some people have even thought about putting the data set out to a flat file and then reading it with Word but this too seems tedious.

ALTERNATIVE METHOD TO PROC FORMS

The alternative method could be summarized as the following series of steps:
1. Fixing the margins.

2. Create 4 column variables for the 4 form units across each page.
3. Create 3 column variables with blank characters to separate the above 4 form units.
4. Use PROC REPORT output the dataset to the RTF destination.

1. Fixing the margins. To perfectly print labels on Avery® 11416, the first thing to modify is the margins. To set margins PROC TEMPLATE creates a style to which the ODS statement refers. In the following code, we use our custom template to get 0.25-inch margins at the top and bottom, 0.25-inch margins on the right side, and 0.3-inch margins on the left side.

```
proc template;
   define style newstyle;
      parent = styles.printer;
      replace Body from Document
         "Controls the Body file." /
         bottommargin = 0.25in
         topmargin = 0.25in
         rightmargin = 0.25in
         leftmargin = 0.3in;
   end;
run;
```

2. Create 4 column variables for the 4 form units across each page.

```
Data PLabel1; Set list;
Row1=Trim(FirstName) || '    ' || Trim(LastName);
Row2=Trim(University);
keep Row1 Row2;
run;

Data PLabel2; Set PLabel1;
  Cell=Trim(Row1) || '                                    ' || Trim(Row2);
run;

Data PLabel3; Set PLabel2;
CIndex=mod(_N_,4);
keep CIndex Cell;
run;

Data PLabelC1 PLabelC2 PLabelC3 PLabelC4; Set PLabel3;
     if CIndex=1 then output PLabelC1;
     if CIndex=2 then output PLabelC2;
     if CIndex=3 then output PLabelC3;
     if CIndex=0 then output PLabelC4;
run;
data PLabelC1;set PLabelC1;
rename Cell=Tab1;
IND=_N_;
run;
data PLabelC2;set PLabelC2;
rename Cell=Tab2;
IND=_N_;
run;
data PLabelC3;set PLabelC3;
rename Cell=Tab3;
```

```
IND=_N_;
run;
data PLabelC4;set PLabelC4;
rename Cell=Tab4;
IND=_N_;
run;
proc sort data=PLabelC1; by IND;
proc sort data=PLabelC2; by IND;
proc sort data=PLabelC3; by IND;
proc sort data=PLabelC4; by IND;
run;
data PLabel4; merge PLabelC1 PLabelC2 PLabelC3 PLabelC4;by IND;
run;
```

3. Create 3 column variables with blank characters to separate the above 4 form units. Here the goal is to put some blank characters between adjacent form units. PLabel5 is the final data set that would be used for printing.

```
Data Plabel5; Set Plabel4;
   Tab1b="-----";
   Tab2b="-----";
   Tab3b="-----";
run;

proc format;
  value $between '-----' = 'A0'x'A0'x'A0'x'A0'x'A0'x'A0'x'A0'x
        ;
run;
data PLabel5; set Plabel5;
format Tab1b Tab2b Tab3b $between. ;
run;
```

4. Use PROC REPORT output the dataset to the RTF destination.

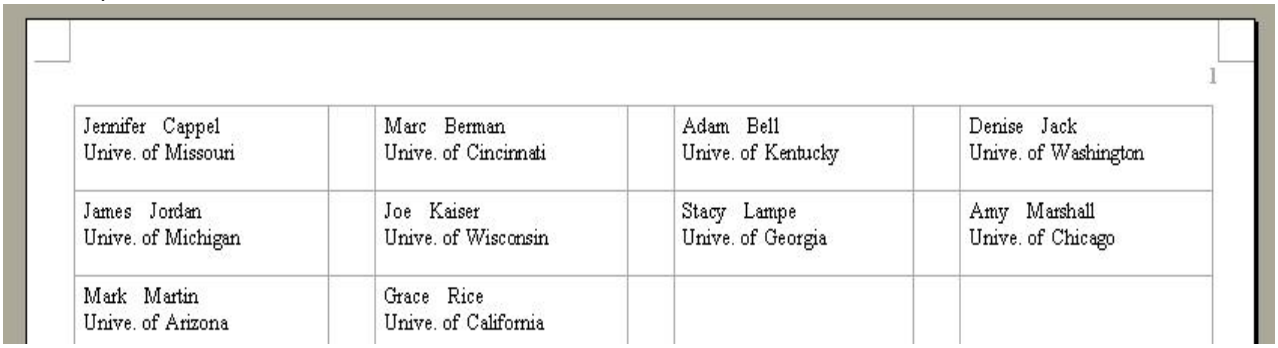
```
title; *remove the default SAS title line;

ODS RTF FILE="C:\Label.doc" bodytitle nokeepn style=newstyle;
ODS NOPTITLE;

proc report data=PLabel5 nowd headline split='?' ps=40 NOHEADER
  style=[FRAME=VOID RULES=NONE]
  style(column)=[CELLHEIGHT=0.492in CELLPADDING=15%] ;
  column  Tab1 Tab1b Tab2 Tab2b Tab3 Tab3b Tab4 ;
  define Tab1 / left  width=20 FLOW  'TAB 1';
  define Tab1b / left  width=5 FLOW  '-----';
  define Tab2 / left  width=20 FLOW SPACING=1 'TAB 2';
  define Tab2b / left  width=5 FLOW  '-----';
  define Tab3 / left  width=20 FLOW SPACING=1 'TAB 3';
  define Tab3b / left  width=5 FLOW  '-----';
  define Tab4 / left  width=20 FLOW SPACING=1 'TAB 4';
run;
Ods rtf close;
```

The TITLE statement removes the default SAS title, "The SAS System". In the domain of Proc Report, FRAME=VOID removes the borders. The CELLHEIGHT option specifies the height of each cell, i.e. the height of each form unit. The CELLPADDING option specifies the space between table cell contents and the cell border. The Width option defines the width of the column. The FLOW option wraps character variables onto multiple lines so that in this case, First Name together with Last Name would be shown on the fist line and Universities are on the second line;

Final Output:



Jennifer Cappel Unive. of Missouri	Marc Berman Unive. of Cincinnati	Adam Bell Unive. of Kentucky	Denise Jack Unive. of Washington
James Jordan Unive. of Michigan	Joe Kaiser Unive. of Wisconsin	Stacy Lampe Unive. of Georgia	Amy Marshall Unive. of Chicago
Mark Martin Unive. of Arizona	Grace Rice Unive. of California		

ADVANTAGES

Several advantages using the alternative method were found.

- It allows for greater control on the size and spacing parameters.
- With suitable settings, it could be used repeatedly for specific Avery® label product.
- It outputs the labels to the Word file directly. In addition, users don't need to modify anything in that Word file.

DISADVANTAGES

- Compared with the FORMS procedure. The proposed method requires more work on the DATA STEP.

CONCLUSION

Based on the PROC REPORT, PROC TEMPLATE and DATA STEPS, this paper presents the techniques which provide the user with more control on the placement parameters and fonts to facilitate printing data sets to labels.

CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the author at:

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