

Cosmetically improved tabulation in clinical reports and appendices

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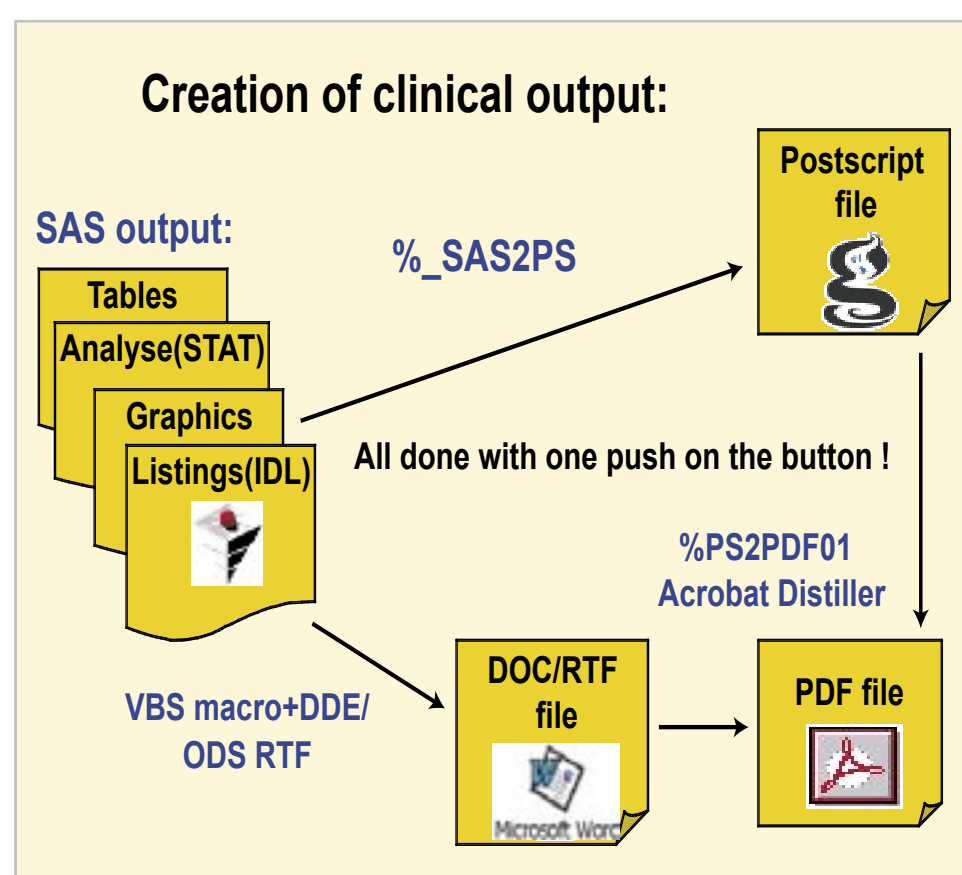
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Introduction

Within our pharmaceutical company NV Organon clinical studies are performed and statistical appendices are created using the SAS System®¹. These appendices contain among other things large tables. To reduce the size of these tables and to make the tables more readable, empty lines instead of normal line separators were introduced.

The empty line tables are produced by specially written SAS macros containing large amounts of SAS code. For some tabular designs the creation of empty lines can be done a lot easier by using PROC TABULATE instead of SAS macros.

Four different methods describe how to introduce empty lines formatted as ODS LISTING output. In addition, two methods are introduced that explain how to create empty lines using PROC TABULATE and ODS RTF, formatted as RTF output. Every method has its own features and the user can use the different methods for his/her own tabular design.



Why improve tables?

- Project management wants it
- Makes the tables easier to read
- One push on the button
- 20 % decrease of large table output¹

Tables are created with PROC TABULATE and NOSEPS tend to have disadvantage that the table gets less readable

The solution: add empty lines

Empty lines with PROC TABULATE

The article¹ describes four methods for ODS listing output:

- **Method 1:** Dummy analysis variable and a format.
- **Method 2:** Dummy analysis variable and SUM statistic.
- **Method 3:** PRELOADFMT and PRINTMISS and two formats.
- **Method 4:** INDENT OPTION/Dummy variable/special blank
- **Method 5/6:** ODS RTF/ODS listing combinations

Method 1

gender	ageclass	tcpf	
1	Female	Young	Group B
2	Female	Older	Group B
3	Male	Young	Group A
4	Female	Young	Group A
5	Female	Middle	Group B
6	Female	Young	Group B
7	Female	Middle	Group B
8	Male	Middle	Group A
9	Male	Young	Group A
10	Male	Young	Group A
11	Female	Older	Group B
12	Female	Middle	Group B
13	Male	Young	Group A
14	Female	Young	Group B
15	Female	Young	Group B
16	Female	Young	Group B
17	Female	Older	Group B
18	Male	Middle	Group A

Table C		Treatment Group			
		Group A		Group B	
		n	%	n	%
Female	Middle	.	.	3	25.0
	Older	.	.	3	25.0
	Young	.	.	6	50.0
Male	Middle	2	33.3	.	.
	Young	4	66.7	.	.
All	Middle	2	33.3	3	25.0
	Older	2	33.3	3	25.0
	Young	4	66.7	6	50.0


```

options missing='';
proc format;
value empty 0 = ' ';
run;
data b;
set current.a;
dummy=.;
run;
proc tabulate data=b noseps;
class gender ageclass tcpf;
var dummy;
table (gender=' ' all='All') *
(ageclass=' ' dummy=' '),
(tcpf='Treatment Group') *
(n='n' *f=empty5.0 pctn<ageclass
dummy >='%' *f=5.1)
/rtts=30 box='Table C';
run;
    
```

Method 2

Table C		Treatment Group			
		Group A		Group B	
		n	%	n	%
Female	Middle	.	.	3	25.0
	Older	.	.	3	25.0
	Young	.	.	6	50.0
Male	Middle	2	33.3	.	.
	Young	4	66.7	.	.
All	Middle	2	33.3	3	25.0
	Older	2	33.3	3	25.0
	Young	4	66.7	6	50.0


```

options missing='';
data b;
set current.a;
dummy=.;
value=1;
run;
proc tabulate data=b noseps;
class gender ageclass tcpf;
var dummy value;
table (gender=' ' all='All') *
(ageclass=' ' * value=' ' dummy=' '),
(tcpf='Treatment Group') *
(SUM='n' *f=5.0 pctn<ageclass
dummy>='%' *f=5.1)
/rtts=30 box='Table C';
run;
    
```


Table C		Treatment Group			
		Group A		Group B	
		n	%	n	%
Female	Middle	.	.	3	25.0
	Older	.	.	3	25.0
	Young	.	.	6	50.0
Male	Middle	2	33.3	.	.
	Young	4	66.7	.	.
All	Middle	2	33.3	3	25.0
	Older	2	33.3	3	25.0
	Young	4	66.7	6	50.0


```

ods rtf file='test1.rtf'
style=rtfstyle.landa4;
<PROC TABULATE EMPTY LINE SYNTAX>
ods rtf close;
    
```

Conclusion

Creating empty lines in tables can be done in different ways using PROC TABULATE as the methods show. Still, every method has its own features and the user can use the different methods as a handle for his/her own tabular design. For Method 1 and 3 the RTF formatted document give a neat empty line, although this empty line is not an added value following tabular output like in Figure 10. If one wants to introduce empty lines in an RTF formatted document, it is recommended to introduce the empty line within the PROC TABULATE syntax instead of the ODS RTF facility.

Source:

1. Twan van Berkel, Empty Lines in SAS Tables (List Output and ODS RTF Output) produced by Proc Tabulate, PhUSE 2005