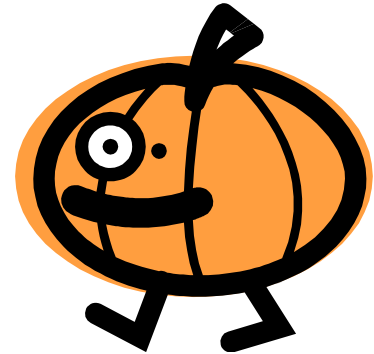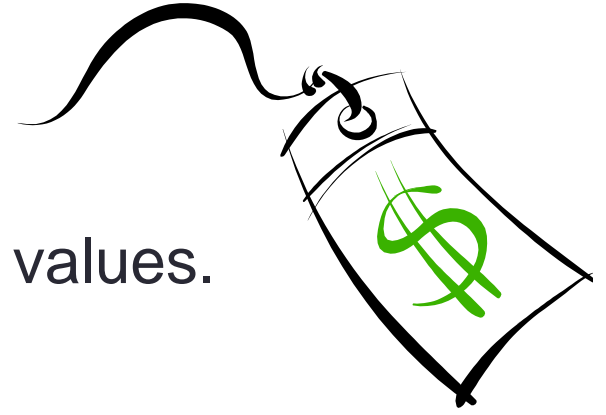# ZERO MY HERO!

Getting those zeroes on your PROC REPORT
or PROC TABULATE tables!!

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Here's What I Got!

- Boss wants a listing for all months and values.

- You know that some rows will be empty.

- How do you get those values to list on the reports?

- Could you populate those empty rows with just anything?

- Of course you can!

Look At This Deal!

- Here is a particle listing of the codes:

d4400	Sum	613.00	739.00	713.00	938.00	757.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3760.00
d4430	Sum	0.00	1.00	2.00	1.00	3.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.00
d4450	Sum	18.00	28.00	20.00	22.00	13.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	101.00
d4460	Sum	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
d4470	Sum	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
d4500	Sum	783.00	806.00	625.00	700.00	582.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3496.00
d4510	Sum	19.00	10.00	6.00	14.00	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.00
d4700	Sum	4.00	1.00	10.00	4.00	6.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.00
d4900	Sum	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Monthly Totals	N	10321	10312	8854	10367	9549	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49403

- Notice the codes d4460, d4470, and d4900. These are the empty codes that have zeroes in them.

Oh Oh!

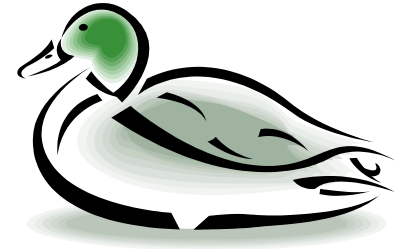- If you run a regular Proc Report you get this as outcome:

DispCode by Month for 2013, Example One
Last Run on this date: July 31, 2013

Month	DISPCODE	Monthly Totals
JAN	1100, Complete	592
	1200, Partial Complete	43
	2111, HH level refusal (LL only)	69
	2112, Known respondent refusal	69
	2120, Break off/ termination within questionnaire	54
	2210, Respondent never available	110
	2320, Respondent physically or metally unable to complete interview	46
	2330, Language barrier, selected respondent	3
	3100, Unknown if housing unit	1471
	3130, No answer	1
	3150, Telecommunication barrier	150
	3200, HH, not known if respondent eligible	20
	3322, Physical or mental impairment (HH level)	12
	3330, Language barrier, (HH level)	11
	4100, Out of sample	12
	4200, Fax/data/modem	372
	4300, Nonworking number/disconnected	5849
	4400, Special technological circumstances	613
	4450, Cell Phone (LL only)	18
	4500, Non-residence	783
	4510, Group home	19
	4700, HH, no eligible respondent	4
FEB	1100, Complete	537
	1200, Partial Complete	35
	2111, HH level refusal (LL only)	69
	2112, Known respondent refusal	72

No codes of 4460, 4470, or 4900

Just Say The Magic Words:
Proc Format!

Normal Proc Report:	Be sure to make your Proc Format ahead of time!! Adding to Proc Report what you need to get Zeros:

proc report data=present.landmain
        split = "\" nowd spacing=**3**
        style(column) = [font_size = **10**pt]
        headline ;
        format studymonth monf. dispcode dispf. ;
 	
Columns studymonth dispcode N ;
 	
define studymonth / group order=data 'Month right;
define dispcode / group order=formatted left;
define N / 'Monthly\Totals' right;
 	
rbreak after / summarize ;
 	
title1 j=c "DispCode by Month for &cyy, Example One" ;
title2 j=c "Last Run on this date: &fdate" ;
run;
	proc report data=present.landmain
	    split = "\" nowd spacing=**3**
	    style(column) = [font_size = **10**pt]
	    headline completerows ;
	
	Columns studymonth dispcode N ;
	
	define studymonth / group order =data 'Month' right
	            preloadfmt format=monf. ;
	define dispcode / group order =data 'Disp. Code ' left
	            preloadfmt format=dispf. ;
	define N / 'Monthly\Totals' right;
	
	rbreak after / summarize ;
	
	title1 j=c "DispCode by Month for &cyy, Example Two" ;
	title2 j=c "Last Run on this date: &fdate" ;
	run;

Act Now!

- COMPLETEROWS is defined as: displaying all possible combinations of the values of the group variables, even if one or more of the combinations do not occur in the input data set. Consequently, the row headings are the same for all logical pages of the report within a single BY group. The PRELOADFMT option in the DEFINE statement ensures that PROC REPORT uses all user-defined format ranges for the combinations of group variables, even when a frequency is zero.

- PRELOADFMT is defined as: specifying that the format is preloaded for the variable. PRELOADFMT applies only to group and across variables. It has no effect unless you specify either EXCLUSIVE or ORDER=DATA and you assign a format to the variable.

Just Look At The Results!

Example One:

DispCode by Month for 2013, Example One
Last Run on this date: July 31, 2013

Month	DISPCODE	Monthly Totals
JAN	1100, Complete	592
	1200, Partial Complete	43
	2111, HH level refusal (LL only)	69
	2112, Known respondent refusal	69
	2120, Break off/ termination within questionnaire	54
	2210, Respondent never available	110
	2320, Respondent physically or metally unable to complete interview	46
	2330, Language barrier, selected respondent	3
	3100, Unknown if housing unit	1471
	3130, No answer	1
	3150, Telecommunication barrier	150
	3200, HH, not known if respondent eligible	20
	3322, Physical or mental impairment (HH level)	12
	3330, Language barrier, (HH level)	11
	4100, Out of sample	12
	4200, Fax/data/modem	372
	4300, Nonworking number/disconnected	5849
	4400, Special technological circumstances	613
	4450, Cell Phone (LL only)	18
	4500, Non-residence	783
	4510, Group home	19
	4700, HH, no eligible respondent	4
FEB	1100, Complete	537
	1200, Partial Complete	35
	2111, HH level refusal (LL only)	69
	2112, Known respondent refusal	72

Example Two:

DispCode by Month for 2013, Example Two
Last Run on this date: July 31, 2013

Month	Disp. Code	Monthly Totals
JAN	1100, Complete	592
	1200, Partial Complete	43
	2111, HH level refusal (LL only)	69
	2112, Known respondent refusal	69
	2120, Break off/ termination within questionnaire	54
	2210, Respondent never available	110
	2220, HH answering device (LL only)	0
	2320, Respondent physically or metally unable to complete interview	46
	2330, Language barrier, selected respondent	3
	3100, Unknown if housing unit	1471
	3130, No answer	1
	3140, Answering device, unk. if residence or respondent eligible	0
	3150, Telecommunication barrier	
	3200, HH, not known if respondent eligible	
	3322, Physical or mental impairm...	
	3330, Language ...	372
	...king number/disconnected	5849
	4400, Special technological circumstances	613
	4450, Call forwarding/pager	0
	4450, Cell Phone (LL only)	18
	4460, Landline (CP only)	0
	4470, Cell Phone respondent with landline	0
	4500, Non-residence	783
	4510, Group home	19
	4700, HH, no eligible respondent	4
	4900, Miscellaneous, non-eligible	0
FEB	1100, Complete	537

Notice that the wanted Zeros are now Included!!

But Wait, There's More!

Regular Proc Tabulate:	(Again, make sure your Proc Formats are made first!) New and Improved Proc Tabulate:

```
proc tabulate data=present.landmain
        format=8.2  ;

    class  studymonth  ;
    var dispcode  ;

    table dispcode
        all="Monthly Totals" ,
        studymonth='Months'
        all="Up to Date Disp. Code for &cyy" ;

format studymonth monf. dispcode dispf. ;
title "DispCode by Month for &cyy,
        Example One";
title2 "Last Run on this date: &fdate" ;

run;
```

```
proc tabulate data=present.landmain
        format=8.2
            classdata=present.landmain exclusive  ;

class  studymonth dispcode  / PRELOADFMT exclusive;

 table dispcode
        all="Monthly Totals",
        studymonth='Months'
        all="Up to Date Disp. Code for &cyy"
        / printmiss box='Disp. Codes'
            misstext='Hand over the Chocolate!' ;

  format studymonth monf. dispcode dispf. ;
  title "DispCode by Month for &cyy, Example Two";
  title2 "Last Run on this date: &fdate" ;

run;
```
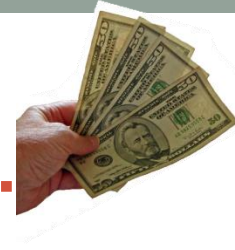
Now How Much Would You…

- CLASSDATA= is defined as a SAS data set that contains the combinations of values of the class variables that must be present in the output. Any combinations of values of the class variables that occur in the CLASSDATA= data set but not in the input data set appear in each table or output data set and have a frequency of zero. The CLASSDATA= data set must contain all class variables. Their data type and format must match the corresponding class variables in the input data set.

- EXCLUSIVE excludes from the tables and the output data sets all combinations of the class variable that are not found in the CLASSDATA= data set. If a CLASSDATA= data set is not specified, then this option is ignored.

- PRINTMISS prints all values that occur for a class variable each time headings for that variable are printed, even if there are no data for some of the cells that these headings create. Consequently, PRINTMISS creates row and column headings that are the same for all logical pages of the table, within a single BY group. If an entire logical page contains only missing values, then that page does not print regardless of the PRINTMISS option.

But It's Just Not Enough!

- Example One:

DispCode by Month for 2013, Example One
Last Run on this date: July 31, 2013

		Months					Up to Date Disp. Code for 2013
		JAN	FEB	MAR	APR	MAY	
DISPCODE	Sum	39809291	39472985	33583990	39521912	36188451	1.8858E8
Monthly Totals	N	10321	10312	8854	10367	9549	49403

You Get Much, Much More!

DispCode by Month for 2013, Example Two
Last Run on this date: July 31, 2013

Disp. Codes	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Up to Date Disp. Code for 2013
	N	N	N	N	N	N	N	N	N	N	N	N	N
DISPCODE						Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	
1100, Complete	592	537	480	534	548	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	2691
1200, Partial Complete	43	35	30	51	51	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	210
2111, HH level refusal (LL only)	69	69	56	50	47	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	291
2112, Known respondent refusal	69	72	89	108	91	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	429
2120, Break off/ termination within questionnaire	54	38	31	41	37	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	201
2210, Respondent never available	110	115	80	107	115	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	527
2220, HH answering device (LL only)	Hand over the Chocolate!	421	550	564	530	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	2065
2320, Respondent physically or metally unable to complete interview	46	57	15	19	27	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Ch...	Hand over				
2330, Language barrier, selected respondent	3	7	9	6		Hand over							
						Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!
					5	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	41
4200, Fax/data/modem	372	375	299	383	350	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	1779
4300, Nonworking number/disconnected	5849	5602	4711	5504	5224	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	26890
4400, Special technological circumstances	613	739	713	938	757	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	3760
4430, Call forwarding/pager	Hand over the Chocolate!	1	2	1	3	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	7
4450, Cell Phone (LL only)	18	28	20	22	13	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	101
4460, Landline (CP only)	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!
4470, Cell Phone respondent with landline	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!	Hand over the Chocolate!
4500, Non-residence	783	806	625	700	582	Hand over the Chocolate!	Hand over ...	Hand over	Hand over the	Hand over	Hand over	Hand over the	3496
4510, Group home	19	10	6	14									
... eligible respondent													

Bye Now And Save!

- Contact Information:

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