

MET MA 603:  
Assignment Project Exam Help  
SAS Programming and  
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Applications

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*Automatic Variables*

# Automatic Variables

In a Data step, SAS creates several variables that it uses in processing the step. **Automatic Variables** are temporary variables created during each Data step and used by SAS in processing.

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Automatic variables do not get written to the output dataset. However, sometimes it is useful to reference them in the Data step.

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The automatic variables that will be covered are:

`_N_`

`First.var`

`Last.var`

# First. and Last.

The automatic variables **First.*var*** and **Last.*var*** indicate, with a 1 or 0, whether the current observation is the first or last occurrence, respectively, of the variable *var*.

The First. and Last. automatic variables are only created when the BY statement is used, and the input dataset must be sorted according to the way the variables appear in the BY statement.

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# N

The automatic variable   N   indicates the number of times SAS has looped through a Data step.

Recall that when SAS processes a Data step there is a built-in loop, where each statement is executed for each observation. Each time SAS loops through the statements in the Data step, the automatic variable   N   is incremented by 1.

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*Usually*   N   can be thought of as the row number of each observation. This is true for simple Data steps, where the number of observations in the input and output datasets are the same.

# Practice

From the losses.sas7bdat dataset, create a new dataset that contains the 5 biggest losses from 2014

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	Date	Amount
1	25MAR2014	\$374,135
2	07MAR2014	\$190,987
3	17JAN2014	\$161,578
4	08JAN2014	\$100,901
5	25JAN2014	\$50,878

# Practice

From the losses.sas7bdat dataset, create a new dataset that contains a random sample of 5 losses from 2014 where the loss amount is greater than 9,999. (Your sample will likely differ from what is below, and you should get a different result each time you run your code).

Use the random number function RAND("Uniform") to generate random numbers.

VIEWTABLE: Work.Loss\_sample

	Date	Amount
1	07FEB2014	\$18,738
2	08JAN2014	\$23,583
3	08JAN2014	\$20,878
4	15AUG2014	\$13,746
5	08JAN2014	\$100,901

# Readings

- Textbook section 6.15

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