

How do you create new variables in SAS?

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July 1, 2024

RECOMMENDED CITATION

stats writer (2024). *How do you create new variables in SAS?*. PSYCHOLOGICAL SCALES.
Retrieved from <https://scales.arabpsychology.com/?p=164341>

SAS (Statistical Analysis System) is a widely used software for data analysis and manipulation. In order to perform various analytical tasks, it is often necessary to create new variables in SAS. This can be done using the DATA step, which is the primary programming language in SAS. To create a new variable, the programmer must first define its name, type, and length. Once defined, the variable can be assigned a value using various SAS functions and operators. The variable can then be used in subsequent analyses or data manipulations. Creating new variables in SAS allows for a more efficient and customizable approach to data analysis and is an essential skill for any SAS programmer.

Create New Variables in SAS (With Examples)

Here are the two most common ways to create new variables in SAS:

Method 1: Create Variables from Scratch

```
data original_data;  
input var1 $ var2 var3;  
datalines;  
A 12 6  
B 19 5  
C 23 4  
D 40 4  
;  
run;
```

Method 2: Create Variables from Existing Variables

```
data new_data;  
set original_data;  
new_var4 = var2 / 5;  
new_var5 = (var2 + var3) * 2;  
run;
```

The following examples show how to use each method in practice.

Related:

Example 1: Create Variables from Scratch

The following code shows how to create a dataset with three variables: team, points, and rebounds:

```
/*create dataset*/  
data original_data;  
input team $ points rebounds;  
datalines;  
Warriors 25 8  
Wizards 18 12  
Rockets 22 6  
Celtics 24 11  
Thunder 27 14
```

Spurs 33 19

Nets 31 20

;

run;

/*view dataset*/

proc printdata=original_data;

Obs	team	points	rebounds
1	Warriors	25	8
2	Wizards	18	12
3	Rockets	22	6
4	Celtics	24	11
5	Thunder	27	14
6	Spurs	33	19
7	Nets	31	20

Note that you can simply list the variable names after the input function and you can create their values from scratch after the datalines function.

Note: SAS assumes each new variable is numeric. To create a character variable, simply type a dollar sign "\$" after the variable name like we did for the team variable in this example.

Example 2: Create Variables from Existing Variables

The following code shows how to use the set function to create a new dataset whose variables are created from existing variables in another dataset:

```
/*create new dataset*/  
data new_data;  
set original_data;  
half_points = points / 2;  
avg_pts_rebs = (points + rebounds) / 2;  
run;  
  
/*view new dataset*/  
proc printdata=new_data;
```

Obs	team	points	rebounds	half_points	avg_pts_rebs
1	Warriors	25	8	12.5	16.5
2	Wizards	18	12	9.0	15.0
3	Rockets	22	6	11.0	14.0
4	Celtics	24	11	12.0	17.5
5	Thunder	27	14	13.5	20.5
6	Spurs	33	19	16.5	26.0
7	Nets	31	20	15.5	25.5

Additional Resources

The following tutorials explain how to perform other common tasks in SAS:

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