How do you calculate Mean, Median, & Mode in SAS?

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In SAS, the mean, median, and mode of a set of data can be calculated using the MEANS, MEDIAN, and MODES procedures, respectively. The MEANS procedure uses the MEAN statement to calculate the arithmetic mean. The MEDIAN procedure uses the MEDIAN statement to calculate the median. The MODES procedure uses the MODE statement to calculate the mode. The PROC MEANS, MEDIAN, and MODES procedures also generate additional statistics, such as standard deviation, skewness, kurtosis, quartiles, etc.

You can use **proc univariate** to quickly calculate the mean, median, and mode of variables in SAS.

This procedure uses the following basic syntax:

```
proc univariate data=my_data;
run;
```

The following example shows how to use this syntax in practice.

Example: Calculate Mean, Median & Mode for All Variables

Suppose we have the following dataset in SAS:

```
/*create dataset*/
data my_data;
input team $ points rebounds assists;
datalines;
A 25 10 8
B 18 4 5
C 18 7 10
D 24 12 4
E 27 11 5
F 30 8 7
G 12 8 5
;
run;

/*view dataset*/
proc print data=my_data;
```

Obs	team	points	rebounds	assists
1	A	25	10	8
2	B	18	4	5
3	C	18	7	10
4	D	24	12	4
5	E	27	11	5
6	F	30	8	7
7	G	12	8	5

We can use the following code to calculate the mean, median and mode for all variables in our dataset:

```
/*calculate mean, median, mode for each variable in my_data*/
proc univariate data=my_data;
run;
```

This code produces the following output:

1. Mean, Median & Mode for Points Variable

The UNIVARIATE Procedure
Variable: points

Moments			
N	7	Sum Weights	7
Mean	22	Sum Observations	154
Std Deviation	6.244998	Variance	39
Skewness	-0.4368625	Kurtosis	-0.6965155
Uncorrected SS	3622	Corrected SS	234
Coeff Variation	28.3863545	Std Error Mean	2.36038738

Basic Statistical Measures			
Location		Variability	
Mean	22.00000	Std Deviation	6.24500
Median	24.00000	Variance	39.00000
Mode	18.00000	Range	18.00000
		Interquartile Range	9.00000

We can see:

The mean points value is **22**.
The median points value is **24**.
The mode points value is **18**.

2. Mean, Median & Mode for Rebounds Variable

The UNIVARIATE Procedure
Variable: rebounds

Moments			
N	7	Sum Weights	7
Mean	8.57142857	Sum Observations	60
Std Deviation	2.69920623	Variance	7.28571429
Skewness	-0.5012367	Kurtosis	0.05221069
Uncorrected SS	558	Corrected SS	43.7142857
Coeff Variation	31.4907394	Std Error Mean	1.02020406

Basic Statistical Measures			
Location		Variability	
Mean	8.571429	Std Deviation	2.69921
Median	8.000000	Variance	7.28571
Mode	8.000000	Range	8.00000
		Interquartile Range	4.00000

The mean rebounds value is **8.57**.
The median rebounds value is **8**.
The mode rebounds value is **8**.

3. Mean, Median & Mode for Assists Variable

The UNIVARIATE Procedure
Variable: assists

Moments			
N	7	Sum Weights	7
Mean	6.28571429	Sum Observations	44
Std Deviation	2.13808994	Variance	4.57142857
Skewness	0.91495216	Kurtosis	-0.1585938
Uncorrected SS	304	Corrected SS	27.4285714
Coeff Variation	34.0150672	Std Error Mean	0.80812204

Basic Statistical Measures			
Location		Variability	
Mean	6.285714	Std Deviation	2.13809
Median	5.000000	Variance	4.57143
Mode	5.000000	Range	6.00000
		Interquartile Range	3.00000

We can see:

The mean assists value is **6.28**.
The median assists value is **5**.
The mode assists value is **5**.

If you'd like to only calculate the mean, median and mode for one specific variable, you can use the following syntax:

```
/*calculate mean, median, and mode only for points variable*/
proc univariate data=my_data;
var points;
run;
```

The mean, median and mode values will only be calculated for the **points** variable.

Note: You can find the complete documentation for **PROC UNIVARIATE** .

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