

How can I utilize the FIRST. and LAST. variables in SAS?

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The FIRST. and LAST. variables in SAS are used to identify the first and last observations in a data set. These variables can be utilized in various ways, such as creating conditional statements to perform specific actions on the first or last observation, or to calculate summary statistics for the first or last group of observations. Additionally, they can be used in conjunction with other variables to sort and group data in a desired manner. By utilizing the FIRST. and LAST. variables effectively, one can efficiently analyze and manipulate data in SAS.

Use FIRST. and LAST. Variables in SAS

You can use the FIRST. and LAST. functions in SAS to identify the first and last observations by group in a SAS dataset.

Here is what each function does in a nutshell:

FIRST.variable_name assigns a value of 1 to the first observation in a group and a value of 0 to every other observation in the group. **LAST.variable_name** assigns a value of 1 to the last observation in a group and a value of 0 to every other observation in the group.

The following examples show how to use each function in practice with the following dataset in SAS:

```
/*create dataset*/  
data my_data;  
input team $ points rebounds;  
datalines;
```

Mavs 29 10

Mavs 13 6

Mavs 22 5

Mavs 20 9

Spurs 13 9

Spurs 15 10

Spurs 33 8

Spurs 27 11

Rockets 25 8

Rockets 14 4

Rockets 16 7

Rockets 12 4

;

run;

/*view dataset*/

proc printdata=my_data;

Obs	team	points	rebounds
1	Mavs	29	10
2	Mavs	13	6
3	Mavs	22	5
4	Mavs	20	9
5	Spurs	13	9
6	Spurs	15	10
7	Spurs	33	8
8	Spurs	27	11
9	Rockets	25	8
10	Rockets	14	4
11	Rockets	16	7
12	Rockets	12	4

Example 1: How to Use FIRST. in SAS

We can use the following FIRST. function in SAS to assign a value of 1 to the first observation for each team in the dataset:

```
/*sort dataset by team*/  
proc sortdata=my_data;  
by team;  
run;
```

```
/*create new dataset that labels first row for each team*/  
data first_team;  
set my_data;  
by team;
```

```
first_team=first.team;  
run;  
  
/*view dataset*/  
proc printdata=first_team;
```

Obs	team	points	rebounds	first_team
1	Mavs	29	10	1
2	Mavs	13	6	0
3	Mavs	22	5	0
4	Mavs	20	9	0
5	Rockets	25	8	1
6	Rockets	14	4	0
7	Rockets	16	7	0
8	Rockets	12	4	0
9	Spurs	13	9	1
10	Spurs	15	10	0
11	Spurs	33	8	0
12	Spurs	27	11	0

Notice that the first_team column assigns the first observation for each team a value of 1. All other values are assigned a value of 0.

You can also use the following code to create a new dataset that only contains the first observation for each team:

```
/*sort dataset by team*/
```

```
proc sortdata=my_data;
```

```
by team;
```

```
run;
```

```
/*create new dataset only contains first row for each team*/
```

```
data first_team;
```

```
set my_data;
```

```
by team;
```

```
if first.team;
```

```
run;
```

```
/*view dataset*/
```

```
proc printdata=first_team;
```

Obs	team	points	rebounds
1	Mavs	29	10
2	Rockets	25	8
3	Spurs	13	9

Notice that the dataset only contains the first observation for each team.

Example 2: How to Use LAST. in SAS

We can use the following LAST. function in SAS to assign a value of 1 to the first observation for each team in the dataset:

```
/*sort dataset by team*/  
proc sortdata=my_data;  
by team;  
run;
```

```
/*create new dataset that labels last row for each team*/  
data last_team;  
set my_data;  
by team;  
last_team=last.team;  
run;
```

```
/*view dataset*/  
proc printdata=last_team;
```

Obs	team	points	rebounds	last_team
1	Mavs	29	10	0
2	Mavs	13	6	0
3	Mavs	22	5	0
4	Mavs	20	9	1
5	Rockets	25	8	0
6	Rockets	14	4	0
7	Rockets	16	7	0
8	Rockets	12	4	1
9	Spurs	13	9	0
10	Spurs	15	10	0
11	Spurs	33	8	0
12	Spurs	27	11	1

Notice that the `last_team` column assigns the last observation for each team a value of 1. All other values are assigned a value of 0.

You can also use the following code to create a new dataset that only contains the last observation for each team:

```
/*sort dataset by team*/  
proc sortdata=my_data;  
by team;  
run;
```

/*create new dataset only contains last row for each

```
team*/  
data last_team;  
set my_data;  
by team;  
if last.team;  
run;  
  
/*view dataset*/  
proc printdata=last_team;
```

Obs	team	points	rebounds
1	Mavs	20	9
2	Rockets	12	4
3	Spurs	27	11

Notice that the dataset only contains the last observation for each team.

Additional Resources

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