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# **SAS/STAT<sup>®</sup> 9.3 User's Guide**

## **Sashelp Data Sets**

### **(Chapter)**



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## Appendix B

# Sashelp Data Sets

### Contents

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Overview of Sashelp Data Sets . . . . .	8275
Bone Marrow Transplant Data . . . . .	8277
Class Data . . . . .	8278
El Niño Southern Oscillation Data . . . . .	8279
Finland's Lake Laengelmavesi Fish Catch Data . . . . .	8280
Exhaust Emissions Data . . . . .	8282
Fisher (1936) Iris Data . . . . .	8283
Coal Seam Thickness Data . . . . .	8284
Flying Mileages between Five U.S. Cities Data . . . . .	8285

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## Overview of Sashelp Data Sets

SAS provides over 200 data sets in the Sashelp library. These data sets are available for you to use for examples and for testing code. For example, the following step uses the Sashelp.Class data set:

```
proc reg data=sashelp.class;  
    model weight = height;  
run; quit;
```

You do not need to provide a DATA step to use Sashelp data sets.

The following steps list all of the data sets that are available in Sashelp:

```
ods listing close;  
proc contents data=sashelp._all_;  
    ods output members=m;  
run;  
ods listing;  
  
proc print;  
    where memtype = 'DATA';  
run;
```

The results of these steps (over 200 data set names) are not displayed.

The following steps provide detailed information about the Sashelp data sets:

```
proc contents data=sashelp._all_;  
run;
```

The results of this step (hundreds of pages of PROC CONTENTS information) are not displayed.

Eight data sets are frequently used in SAS/STAT documentation, and information about these data sets is displayed in the next sections:

Sashelp.BMT	Bone marrow transplant data
Sashelp.Class	Class data
Sashelp.ENS0	El Niño southern oscillation data
Sashelp.Fish	Finland's Lake Laengelmavesi fish catch data
Sashelp.Gas	Exhaust emissions data
Sashelp.Iris	Fisher (1936) iris data
Sashelp.Thick	Coal seam thickness data
Sashelp.Mileages	Flying mileages between five U.S. cities data

## Bone Marrow Transplant Data

The following steps display information about the data set Sashelp.BMT and create Figure B.1:

```

title 'Bone Marrow Transplant Data';
proc contents data=sashelp.bmt varnum;
  ods select position;
run;

title 'The First Five Observations Out of 137';
proc print data=sashelp.bmt (obs=5);
run;

title 'The Risk Group Variable';
proc freq data=sashelp.bmt;
  tables group;
run;

```

**Figure B.1** Bone Marrow Transplant Data

Bone Marrow Transplant Data				
Variables in Creation Order				
#	Variable	Type	Len	Label
1	Group	Char	13	Disease Group
2	T	Num	8	Disease-Free Survival Time
3	Status	Num	8	Event Indicator: 1=Event 0=Censored

  

The First Five Observations Out of 137				
Obs	Group	T	Status	
1	ALL	2081	0	
2	ALL	1602	0	
3	ALL	1496	0	
4	ALL	1462	0	
5	ALL	1433	0	

  

The Risk Group Variable				
Disease Group				
Group	Frequency	Percent	Cumulative Frequency	Cumulative Percent
ALL	38	27.74	38	27.74
AML-High Risk	45	32.85	83	60.58
AML-Low Risk	54	39.42	137	100.00

## Class Data

The following steps display information about the data set Sashelp.Class and create Figure B.2:

```

title 'Class Data';
proc contents data=sashelp.class varnum;
  ods select position;
run;

title 'The Full Data Set';
proc print data=sashelp.class;
run;

```

**Figure B.2** Class Data

Class Data					
Variables in Creation Order					
#	Variable	Type	Len		
1	Name	Char	8		
2	Sex	Char	1		
3	Age	Num	8		
4	Height	Num	8		
5	Weight	Num	8		
The Full Data Set					
Obs	Name	Sex	Age	Height	Weight
1	Alfred	M	14	69.0	112.5
2	Alice	F	13	56.5	84.0
3	Barbara	F	13	65.3	98.0
4	Carol	F	14	62.8	102.5
5	Henry	M	14	63.5	102.5
6	James	M	12	57.3	83.0
7	Jane	F	12	59.8	84.5
8	Janet	F	15	62.5	112.5
9	Jeffrey	M	13	62.5	84.0
10	John	M	12	59.0	99.5
11	Joyce	F	11	51.3	50.5
12	Judy	F	14	64.3	90.0
13	Louise	F	12	56.3	77.0
14	Mary	F	15	66.5	112.0
15	Philip	M	16	72.0	150.0
16	Robert	M	12	64.8	128.0
17	Ronald	M	15	67.0	133.0
18	Thomas	M	11	57.5	85.0
19	William	M	15	66.5	112.0

---

## El Niño Southern Oscillation Data

The following steps display information about the data set Sashelp. ENSO and create Figure B.3:

```
title 'El Nino Southern Oscillation Data';
proc contents data=sashelp.enso varnum;
  ods select position;
run;

title 'The First Five Observations Out of 168';
proc print data=sashelp.enso(obs=5);
run;
```

**Figure B.3** El Niño Southern Oscillation Data

El Nino Southern Oscillation Data			
Variables in Creation Order			
#	Variable	Type	Len
1	Month	Num	8
2	Year	Num	8
3	Pressure	Num	8

  

The First Five Observations Out of 168			
Obs	Month	Year	Pressure
1	1	0.08333	12.9
2	2	0.16667	11.3
3	3	0.25000	10.6
4	4	0.33333	11.2
5	5	0.41667	10.9

## Finland's Lake Laengelmavesi Fish Catch Data

The following steps display information about the data set Sashelp.Fish and create Figure B.4:

```

title 'Finland's Lake Laengelmavesi Fish Catch Data';
proc contents data=sashelp.fish varnum;
  ods select position;
run;

title 'The First Five Observations Out of 159';
proc print data=sashelp.fish(obs=5);
run;

title 'The Fish Species Variable';
proc freq data=sashelp.fish;
  tables species;
run;

```

**Figure B.4** Finland's Lake Laengelmavesi Fish Catch Data

Finland's Lake Laengelmavesi Fish Catch Data							
Variables in Creation Order							
#	Variable	Type	Len				
1	Species	Char	9				
2	Weight	Num	8				
3	Length1	Num	8				
4	Length2	Num	8				
5	Length3	Num	8				
6	Height	Num	8				
7	Width	Num	8				
The First Five Observations Out of 159							
Obs	Species	Weight	Length1	Length2	Length3	Height	Width
1	Bream	242	23.2	25.4	30.0	11.5200	4.0200
2	Bream	290	24.0	26.3	31.2	12.4800	4.3056
3	Bream	340	23.9	26.5	31.1	12.3778	4.6961
4	Bream	363	26.3	29.0	33.5	12.7300	4.4555
5	Bream	430	26.5	29.0	34.0	12.4440	5.1340



Figure B.4 *continued*

The Fish Species Variable				
Species	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Bream	35	22.01	35	22.01
Parkki	11	6.92	46	28.93
Perch	56	35.22	102	64.15
Pike	17	10.69	119	74.84
Roach	20	12.58	139	87.42
Smelt	14	8.81	153	96.23
Whitefish	6	3.77	159	100.00

## Exhaust Emissions Data

The following steps display information about the data set Sashelp.Gas and create Figure B.5:

```

title 'Exhaust Emissions Data';
proc contents data=sashelp.gas varnum;
  ods select position;
run;

title 'The First Five Observations Out of 171';
proc print data=sashelp.gas (obs=5);
run;

title 'The Fuel Type Variable';
proc freq data=sashelp.gas;
  tables fuel;
run;

```

**Figure B.5** Exhaust Emissions Data

Exhaust Emissions Data				
Variables in Creation Order				
#	Variable	Type	Len	Label
1	Fuel	Char	8	
2	CpRatio	Num	8	Compression Ratio
3	EqRatio	Num	8	Equivalence Ratio
4	NOx	Num	8	Nitrogen Oxide

  

The First Five Observations Out of 171				
Obs	Fuel	Cp Ratio	Eq Ratio	NOx
1	Ethanol	12	0.907	3.741
2	Ethanol	12	0.761	2.295
3	Ethanol	12	1.108	1.498
4	Ethanol	12	1.016	2.881
5	Ethanol	12	1.189	0.760

  

The Fuel Type Variable				
Fuel	Frequency	Percent	Cumulative Frequency	Cumulative Percent
82rongas	9	5.26	9	5.26
94%Eth	25	14.62	34	19.88
Ethanol	90	52.63	124	72.51
Gasohol	13	7.60	137	80.12
Indolene	22	12.87	159	92.98
Methanol	12	7.02	171	100.00

## Fisher (1936) Iris Data

The following steps display information about the data set Sashelp.Iris and create [Figure B.6](#):

```

title 'Fisher (1936) Iris Data';
proc contents data=sashelp.iris varnum;
  ods select position;
run;

title 'The First Five Observations Out of 150';
proc print data=sashelp.iris(obs=5);
run;

title 'The Iris Species Variable';
proc freq data=sashelp.iris;
  tables species;
run;

```

**Figure B.6** Fisher (1936) Iris Data

Fisher (1936) Iris Data					
Variables in Creation Order					
#	Variable	Type	Len	Label	
1	Species	Char	10	Iris Species	
2	SepalLength	Num	8	Sepal Length (mm)	
3	SepalWidth	Num	8	Sepal Width (mm)	
4	PetalLength	Num	8	Petal Length (mm)	
5	PetalWidth	Num	8	Petal Width (mm)	

  

The First Five Observations Out of 150					
Obs	Species	Sepal Length	Sepal Width	Petal Length	Petal Width
1	Setosa	50	33	14	2
2	Setosa	46	34	14	3
3	Setosa	46	36	10	2
4	Setosa	51	33	17	5
5	Setosa	55	35	13	2

  

The Iris Species Variable					
Iris Species					
Species	Frequency	Percent	Cumulative Frequency	Cumulative Percent	
Setosa	50	33.33	50	33.33	
Versicolor	50	33.33	100	66.67	
Virginica	50	33.33	150	100.00	

---

## Coal Seam Thickness Data

The following steps display information about the data set Sashelp.Thick and create Figure B.7:

```
title 'Coal Seam Thickness Data';
proc contents data=sashelp.thick varnum;
  ods select position;
run;

title 'The First Five Observations Out of 75';
proc print data=sashelp.thick(obs=5);
run;
```

**Figure B.7** Coal Seam Thickness Data

Coal Seam Thickness Data				
Variables in Creation Order				
#	Variable	Type	Len	Label
1	East	Num	8	
2	North	Num	8	
3	Thick	Num	8	Coal Seam Thickness

  

The First Five Observations Out of 75				
Obs	East	North	Thick	
1	0.7	59.6	34.1	
2	2.1	82.7	42.2	
3	4.7	75.1	39.5	
4	4.8	52.8	34.3	
5	5.9	67.1	37.0	

## Flying Mileages between Five U.S. Cities Data

The following steps display information about the data set Sashelp.Mileages and create Figure B.8:

```

title 'Flying Mileages between Five US Cities Data';
proc contents data=sashelp.mileages varnum;
  ods select position;
run;

title 'The Full Data Set';
proc print data=sashelp.mileages label;
  id city;
run;

```

**Figure B.8** Flying Mileages between Five U.S. Cities Data

Flying Mileages between Five US Cities Data										
Variables in Creation Order										
#	Variable	Type	Len							
1	Atlanta	Num	8							
2	Chicago	Num	8							
3	Denver	Num	8							
4	Houston	Num	8							
5	LosAngeles	Num	8							
6	Miami	Num	8							
7	NewYork	Num	8							
8	SanFrancisco	Num	8							
9	Seattle	Num	8							
10	WashingtonDC	Num	8							
11	City	Char	15							
The Full Data Set										
City	Atlanta	Chicago	Denver	Houston	Los Angeles	Miami	New York	San Francisco	Seattle	Washington DC
Atlanta	0	.	.	.	.	.	.	.	.	.
Chicago	587	0	.	.	.	.	.	.	.	.
Denver	1212	920	0	.	.	.	.	.	.	.
Houston	701	940	879	0	.	.	.	.	.	.
Los Angeles	1936	1745	831	1374	0	.	.	.	.	.
Miami	604	1188	1726	968	2339	0	.	.	.	.
New York	748	713	1631	1420	2451	1092	0	.	.	.
San Francisco	2139	1858	949	1645	347	2594	2571	0	.	.
Seattle	2182	1737	1021	1891	959	2734	2408	678	0	.
Washington D.C.	543	597	1494	1220	2300	923	205	2442	2329	0



## Your Turn

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