

# Sashelp Data Sets

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### **Sashelp Data Sets**

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# Chapter 1

## Sashelp Data Sets

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## Sashelp.aacomp

The Sashelp.aacomp data set provides advanced analytics model variable labels and error text. The following steps display information about the data set Sashelp.aacomp and create [Figure 1.1](#). The data set contains 2,020 observations.

```

title "Sashelp.aacomp";
proc contents data=sashelp.aacomp varnum;
    ods select position;
run;

title "The First Five Observations Out of 2,020";
proc print data=sashelp.aacomp(obs=5) noobs;
run;

```

**Figure 1.1** Sashelp.aacomp

### Sashelp.aacomp

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	locale	Char	5
2	key	Char	60
3	lineno	Num	4
4	text	Char	1200

#### The First Five Observations Out of 2,020

locale	key	lineno	text
en	MODEL_ASE_VLABEL	1	Average Squared Error
en	MODEL_CCUT_VLABEL	1	Classification Cutoff
en	MODEL_CODEDEPENDENCY_ERROR	1	Unable to determine the code variable dependencies.
en	MODEL_CORRECTRATE_VLABEL	1	Overall Precision Rate
en	MODEL_CRCUT_VLABEL	1	CR Cutoff

## Sashelp.aarfm

The following steps display information about the data set Sashelp.aarfm and create [Figure 1.2](#). The data set contains 130 observations.

```

title "Sashelp.aarfm";
proc contents data=sashelp.aarfm varnum;
  ods select position;
run;

title "The First Five Observations Out of 130";
proc print data=sashelp.aarfm(obs=5) noobs;
run;

```

**Figure 1.2** Sashelp.aarfm

### Sashelp.aarfm

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	locale	Char	5
2	key	Char	60
3	lineno	Num	4
4	text	Char	1200

#### The First Five Observations Out of 130

locale	key	lineno	text
en	AVERAGE_PLURAL	1	Averages
en	AVERAGE_SINGULAR	1	Average
en	COMMON_ERRMSG_PROC_ERROR	1	%1z (%#1s) Errors occurred in procedures while invoking this macro. Please refer to the LOG for details.
en	CUSTOMERIDLABEL	1	Customer Identifier
en	CUSTOMER_ID_VARIABLE_NOT_FOUND	1	%1z (%#1s) Required customer identifier variable is not specified.

## Sashelp.air — Airline Data (Monthly: Jan49-Dec60)

The Sashelp.air data set provides airline data (monthly: Jan49–Dec60). The following steps display information about the data set Sashelp.air and create Figure 1.3. The data set contains 144 observations.

```

title "Sashelp.air --- Airline Data (Monthly: Jan49-Dec60)";
proc contents data=sashelp.air varnum;
    ods select position;
run;

title "The First Five Observations Out of 144";
proc print data=sashelp.air(obs=5) noobs;
run;

```

**Figure 1.3** Sashelp.air — Airline Data (Monthly: Jan49-Dec60)

### Sashelp.air --- Airline Data (Monthly: Jan49-Dec60)

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	MONYY.
2	AIR	Num	8	international airline travel (thousands)

#### The First Five Observations Out of 144

DATE	AIR
JAN49	112
FEB49	118
MAR49	132
APR49	129
MAY49	121

## Sashelp.airline

The following steps display information about the data set Sashelp.airline and create Figure 1.4. The data set contains 144 observations.

```

title "Sashelp.airline";
proc contents data=sashelp.airline varnum;
  ods select position;
run;

title "The First Five Observations Out of 144";
proc print data=sashelp.airline(obs=5) noobs;
run;

```

**Figure 1.4** Sashelp.airline

### Sashelp.airline

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	MONYY.
2	AIR	Num	8	international airline travel (thousands)
3	Region	Char	3	

#### The First Five Observations Out of 144

DATE	AIR	Region
JAN49	112	ALL
FEB49	118	ALL
MAR49	132	ALL
APR49	129	ALL
MAY49	121	ALL

## Sashelp.applianc — Sales Time Series for 24 Appliances By Cycle

The Sashelp.applianc data set provides sales time series for 24 appliances by cycle. The following steps display information about the data set Sashelp.applianc and create Figure 1.5. The data set contains 156 observations.

```

title "Sashelp.applianc --- Sales Time Series for 24 Appliances By Cycle";
proc contents data=sashelp.applianc varnum;
    ods select position;
run;

title "The First Five Observations Out of 156";
proc print data=sashelp.applianc(obs=5) noobs;
run;

```

**Figure 1.5** Sashelp.applianc — Sales Time Series for 24 Appliances By Cycle  
**Sashelp.applianc --- Sales Time Series for 24 Appliances By Cycle**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	units_1	Num	8 units, appliance 1
2	units_2	Num	8 units, appliance 2
3	units_3	Num	8 units, appliance 3
4	units_4	Num	8 units, appliance 4
5	units_5	Num	8 units, appliance 5
6	units_6	Num	8 units, appliance 6
7	units_7	Num	8 units, appliance 7
8	units_8	Num	8 units, appliance 8
9	units_9	Num	8 units, appliance 9
10	units_10	Num	8 units, appliance 10
11	units_11	Num	8 units, appliance 11
12	units_12	Num	8 units, appliance 12
13	units_13	Num	8 units, appliance 13
14	units_14	Num	8 units, appliance 14
15	units_15	Num	8 units, appliance 15
16	units_16	Num	8 units, appliance 16
17	units_17	Num	8 units, appliance 17
18	units_18	Num	8 units, appliance 18
19	units_19	Num	8 units, appliance 19
20	units_20	Num	8 units, appliance 20
21	units_21	Num	8 units, appliance 21
22	units_22	Num	8 units, appliance 22
23	units_23	Num	8 units, appliance 23
24	units_24	Num	8 units, appliance 24
25	cycle	Num	8



Figure 1.5 continued

The First Five Observations Out of 156

units_1	units_2	units_3	units_4	units_5	units_6	units_7	units_8	units_9	units_10	units_11	units_12	units_13	units_14
1	14	1	1	2	1	1	7	1	33	20	1	8	1
0	14	0	1	0	1	1	6	1	32	20	1	8	0
0	19	0	3	6	1	1	7	1	42	27	1	10	0
1	22	1	7	4	1	5	7	1	51	32	5	12	1
1	33	1	6	4	3	5	5	1	80	49	5	19	1

units_15	units_16	units_17	units_18	units_19	units_20	units_21	units_22	units_23	units_24	cycle
1	1	1	1	1	1	1	1	1	1	1
0	2	1	1	1	1	1	1	0	1	2
1	3	1	3	1	1	1	0	0	1	3
1	9	5	7	1	1	1	0	1	1	4
1	9	5	7	1	1	1	1	1	1	5

## Sashelp.assocwa — Current Association List

The Sashelp.assocwa data set provides an association list. The following steps display information about the data set Sashelp.assocwa and create Figure 1.6. The data set contains 17,459 observations.

```

title "Sashelp.assocwa --- Current Association List";
proc contents data=sashelp.assocwa varnum;
    ods select position;
run;

title "The First Five Observations Out of 17,459";
proc print data=sashelp.assocwa(obs=5) noobs;
run;

```

**Figure 1.6** Sashelp.assocwa — Current Association List

### Sashelp.assocwa --- Current Association List

#### The CONTENTS Procedure

Variables in Creation Order						
#	Variable	Type	Len	Format	Informat	Label
1	DELPRED	Num	8	1.		Delete Predecessor when delete successor
2	DELSUCC	Num	8	1.		Delete Successor when delete predecessor
3	PREDCLAS	Char	20	\$20.		Predecessor Object Class
4	PREDROLE	Char	40	\$40.		Predecessor Role Name
5	SUCCCLAS	Char	20	\$20.		Successor Object Class
6	SUCCROLE	Char	40	\$40.		Successor Role Name
7	DELPREDC	Num	8	1.		Delete Predecessor when cascade delete
8	DELSUCCC	Num	8	1.		Delete Successor when cascading delete
9	VERSION	Num	8			Version number of association
10	_LOADTM	Num	8	DATETIME20.	DATETIME20.	Date Time Stamp of when row was loaded

#### The First Five Observations Out of 17,459

DELPRED	DELSUCC	PREDCLAS	PREDROLE	SUCCCLAS	SUCCROLE	DELPREDC	DELSUCCC	VERSION	_LOADTM
0	1	COLUMN	ANALYSIS	SUMMCOL	STAT	0	1	1.1	03FEB2000:11:22:00
0	1	CURRCOL	ANALYSIS	SUMMCOL	STAT	0	1	1.1	03FEB2000:11:22:00
0	1	DATA COL	ANALYSIS	SUMMCOL	STAT	0	1	1.1	03FEB2000:11:22:00
0	1	OLAPCOL	ANALYSIS	SUMMCOL	STAT	0	1	1.1	03FEB2000:11:22:00
0	1	OLTPCOL	ANALYSIS	SUMMCOL	STAT	0	1	1.1	03FEB2000:11:22:00

## Sashelp.baseball — 1986 Baseball Data

The Sashelp.Baseball data set contains salary and performance information for Major League Baseball players (excluding pitchers) who played at least one game in both the 1986 and 1987 seasons (Time Inc. 1987). The salaries are for the 1987 season, and the performance measures are from the 1986 season. The following steps display information about the data set Sashelp.baseball and create [Figure 1.7](#). The data set contains 322 observations.

```

title "Sashelp.baseball --- 1986 Baseball Data";
proc contents data=sashelp.baseball varnum;
  ods select position;
run;

title "The First Five Observations Out of 322";
proc print data=sashelp.baseball(obs=5) noobs;
run;

```

**Figure 1.7** Sashelp.baseball — 1986 Baseball Data

### Sashelp.baseball --- 1986 Baseball Data

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Label
1	Name	Char	18	Player's Name
2	Team	Char	14	Team at the End of 1986
3	nAtBat	Num	8	Times at Bat in 1986
4	nHits	Num	8	Hits in 1986
5	nHome	Num	8	Home Runs in 1986
6	nRuns	Num	8	Runs in 1986
7	nRBI	Num	8	RBI in 1986
8	nBB	Num	8	Walks in 1986
9	YrMajor	Num	8	Years in the Major Leagues
10	CrAtBat	Num	8	Career Times at Bat
11	CrHits	Num	8	Career Hits
12	CrHome	Num	8	Career Home Runs
13	CrRuns	Num	8	Career Runs
14	CrRbi	Num	8	Career RBIs
15	CrBB	Num	8	Career Walks
16	League	Char	8	League at the End of 1986
17	Division	Char	8	Division at the End of 1986
18	Position	Char	8	Position(s) in 1986
19	nOuts	Num	8	Put Outs in 1986
20	nAssts	Num	8	Assists in 1986
21	nError	Num	8	Errors in 1986
22	Salary	Num	8	1987 Salary in \$ Thousands
23	Div	Char	16	League and Division
24	logSalary	Num	8	Log Salary

Figure 1.7 continued

## The First Five Observations Out of 322

Name	Team	nAtBat	nHits	nHome	nRuns	nRBI	nBB	YrMajor	CrAtBat	CrHits	CrHome
Allanson, Andy	Cleveland	293	66	1	30	29	14	1	293	66	1
Ashby, Alan	Houston	315	81	7	24	38	39	14	3449	835	69
Davis, Alan	Seattle	479	130	18	66	72	76	3	1624	457	63
Dawson, Andre	Montreal	496	141	20	65	78	37	11	5628	1575	225
Galarraga, Andres	Montreal	321	87	10	39	42	30	2	396	101	12

CrRuns	CrRbi	CrBB	League	Division	Position	nOuts	nAssts	nError	Salary	Div	logSalary
30	29	14	American	East	C	446	33	20	.	AE	.
321	414	375	National	West	C	632	43	10	475.0	NW	6.16331
224	266	263	American	West	1B	880	82	14	480.0	AW	6.17379
828	838	354	National	East	RF	200	11	3	500.0	NE	6.21461
48	46	33	National	East	1B	805	40	4	91.5	NE	4.51634

---

## Sashelp.bei — Tropical Rain Forest Trees and Covariates

The Sashelp.BEI data set contains the locations of 3,604 trees in a tropical rain forest (Condit 1998; Hubbell and Foster 1983; Condit, Hubbell, and Foster 1996). A study window of  $1,000 \times 500$  square kilometers is used. The data set also contains covariates, represented by the variables Gradient and Elevation, which were collected at over 20,301 locations on a regular grid across the study region. The variable Trees distinguishes the event observations in the data set. The following steps display information about the data set Sashelp.bei and create Figure 1.8. The data set contains 24,205 observations.

```
title "Sashelp.bei --- Tropical Rain Forest Trees and Covariates";
proc contents data=sashelp.bei varnum;
  ods select position;
run;

title "The First Five Observations Out of 24,205";
proc print data=sashelp.bei(obs=5) noobs;
run;

title "The Trees Variable";
proc freq data=sashelp.bei;
  tables Trees;
run;
```



**Figure 1.8** *continued*

**The Trees Variable**

**The FREQ Procedure**

<b>Trees</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
<b>0</b>	20601	85.11	20601	85.11
<b>1</b>	3604	14.89	24205	100.00

## Sashelp.birthwgt — Mediation Effect of Low Birth Weight on Infant Mortality

The Sashelp.BirthWgt data set contains 100,000 random observations about infant mortality in 2003 from the US National Center for Health Statistics. Each observation records infant death within one year of birth, birth weight, maternal smoking and drinking behavior, and other background characteristics of the mother. The following steps display information about the data set Sashelp.birthwgt and create Figure 1.9. The data set contains 100,000 observations.

```

title "Sashelp.birthwgt --- Mediation Effect of Low Birth Weight on Infant Mortality";
proc contents data=sashelp.birthwgt varnum;
    ods select position;
run;

title "The First Five Observations Out of 100,000";
proc print data=sashelp.birthwgt (obs=5) noobs;
run;

```

**Figure 1.9** Sashelp.birthwgt — Mediation Effect of Low Birth Weight on Infant Mortality

### Sashelp.birthwgt --- Mediation Effect of Low Birth Weight on Infant Mortality

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	LowBirthWgt	Char	3
2	Married	Char	3
3	AgeGroup	Num	8
4	Race	Char	9
5	Drinking	Char	3
6	Death	Char	3
7	Smoking	Char	3
8	SomeCollege	Char	3

#### The First Five Observations Out of 100,000

LowBirthWgt	Married	AgeGroup	Race	Drinking	Death	Smoking	SomeCollege
No	No	3	Asian	No	No	No	Yes
No	No	2	White	No	No	No	No
Yes	Yes	2	Native	No	Yes	No	No
No	No	2	White	No	No	No	No
No	No	2	White	No	No	No	Yes



## Sashelp.bmimen — Body Mass Index and Age for Men

The Sashelp.BMIMen data set was collected from the 1999–2000 and 2001–2002 surveys of men that are published by the National Center for Health Statistics. This data set contains the variables BMI and Age. Body mass index (BMI) is defined as the ratio of weight in kilograms to the square of height in meters. BMI is widely used to categorize individuals as overweight or underweight. The following steps display information about the data set Sashelp.bmimen and create [Figure 1.10](#). The data set contains 3,264 observations.

```

title "Sashelp.bmimen --- Body Mass Index and Age for Men";
proc contents data=sashelp.bmimen varnum;
    ods select position;
run;

title "The First Five Observations Out of 3,264";
proc print data=sashelp.bmimen(obs=5) noobs;
run;

```

**Figure 1.10** Sashelp.bmimen — Body Mass Index and Age for Men

### Sashelp.bmimen --- Body Mass Index and Age for Men

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	Age	Num	8
2	BMI	Num	8

#### The First Five Observations Out of 3,264

Age	BMI
2.0	18.6
2.0	17.1
2.0	19.0
2.0	16.8
2.1	19.0

## Sashelp.bmt — Bone Marrow Transplant Patients

The Sashelp.BMT (bone marrow transplant) data set is used to illustrate survival analysis methods (Klein and Moeschberger 1997). At the time of transplant, each patient is classified into one of three risk categories: ALL (acute lymphoblastic leukemia), AML-Low Risk (acute myelocytic leukemia, low risk), and AML-High Risk. The endpoint of interest is the disease-free survival time, which is the time in days to death, relapse, or the end of the study. In this data set, the variable Group represents the patient's risk category, the variable T represents the disease-free survival time, and the variable Status is the censoring indicator such that the value 1 indicates an event time and the value 0 indicates a censored time. The following steps display information about the data set Sashelp.bmt and create Figure 1.11. The data set contains 137 observations.

```

title "Sashelp.bmt --- Bone Marrow Transplant Patients";
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) noobs;
run;

title "The Group Variable";
proc freq data=sashelp.bmt;
  tables Group;
run;

```

**Figure 1.11** Sashelp.bmt — Bone Marrow Transplant Patients  
**Sashelp.bmt --- Bone Marrow Transplant Patients**

### The CONTENTS Procedure

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

Group	T	Status
ALL	2081	0
ALL	1602	0
ALL	1496	0
ALL	1462	0
ALL	1433	0

**Figure 1.11** *continued***The Group Variable****The FREQ Procedure**

Group	Disease Group		Cumulative	
	Frequency	Percent	Frequency	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

## Sashelp.burrows — Isopod Burrow Locations and Covariates from an Israeli Desert

The Sashelp.Burrows data set contains the locations of 2,089 burrows, which are the habitat of isopods (“pill bugs”) in the Negev desert in Israel (Banerjee and Gelfand 2002). Each burrow has a Status variable that records whether a burrow still contains live isopods, has been emptied by an isopod predator, or has failed for some other environmental reason. The data set also contains covariates, which are measured on a square-meter grid over the study region. These covariates include topographical characteristics such as Elevation, Slope, Aspect, and PercentRock (the percentage of rocks). The data set also contains environmental characteristics such as PercentShrub (the percentage of shrubs), and Dew (the time in hours since midnight required to evaporate the dew). The following steps display information about the data set Sashelp.burrows and create Figure 1.12. The data set contains 24,591 observations.

```

title "Sashelp.burrows --- Isopod Burrow Locations and Covariates from an Israeli"
      " Desert";
proc contents data=sashelp.burrows varnum;
  ods select position;
run;

title "The First Five Observations Out of 24,591";
proc print data=sashelp.burrows (obs=5) noobs;
run;

```

**Figure 1.12** Sashelp.burrows — Isopod Burrow Locations and Covariates from an Israeli Desert  
**Sashelp.burrows --- Isopod Burrow Locations and Covariates from an Israeli Desert**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	ID	Num	8
2	X	Num	8
3	Y	Num	8
4	Z	Num	8
5	Status	Num	8
6	Watershed	Num	8
7	BurrowCount	Num	8
8	Elevation	Num	8
9	Aspect	Num	8
10	Slope	Num	8
11	Dew	Num	8
12	PercentRock	Num	8
13	PercentShrub	Num	8
14	Burrow	Num	8



## Sashelp.buy

The Sashelp.buy data set provides yearly date and amount for purchases. The following steps display information about the data set Sashelp.buy and create [Figure 1.13](#). The data set contains 11 observations.

```

title "Sashelp.buy";
proc contents data=sashelp.buy varnum;
    ods select position;
run;

title "The First Five Observations Out of 11";
proc print data=sashelp.buy(obs=5) noobs;
run;

```

**Figure 1.13** Sashelp.buy

### Sashelp.buy

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 11

DATE	AMOUNT
01JAN1996	-110000
01JAN1997	-1000
01JAN1998	-1000
01JAN1999	-51000
01JAN2000	-2000

## Sashelp.bweight — Infant Birth Weight

The Sashelp.BWeight data set provides 1997 birth weight data from National Center for Health Statistics (Koenker and Hallock 2001; Abreveya 2001). The data record live, singleton births to mothers between the ages of 18 and 45 in the United States who were classified as black or white. The following steps display information about the data set Sashelp.bweight and create [Figure 1.14](#). The data set contains 50,000 observations.

```

title "Sashelp.bweight --- Infant Birth Weight";
proc contents data=sashelp.bweight varnum;
  ods select position;
run;

title "The First Five Observations Out of 50,000";
proc print data=sashelp.bweight (obs=5) noobs;
run;

```

**Figure 1.14** Sashelp.bweight — Infant Birth Weight

### Sashelp.bweight --- Infant Birth Weight

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	Weight	Num	8 Infant Birth Weight
2	Black	Num	8 Black Mother
3	Married	Num	8 Married Mother
4	Boy	Num	8 Baby Boy
5	MomAge	Num	8 Mother's Age
6	MomSmoke	Num	8 Smoking Mother
7	CigsPerDay	Num	8 Cigarettes Per Day
8	MomWtGain	Num	8 Mother's Pregnancy Weight Gain
9	Visit	Num	8 Prenatal Visit
10	MomEdLevel	Num	8 Mother's Education Level

#### The First Five Observations Out of 50,000

Weight	Black	Married	Boy	MomAge	MomSmoke	CigsPerDay	MomWtGain	Visit	MomEdLevel
4111	0	1	1	-3	0	0	-16	1	0
3997	0	1	0	1	0	0	2	3	2
3572	0	1	1	0	0	0	-3	3	0
1956	0	1	1	-1	0	0	-5	3	2
3515	0	1	1	-6	0	0	-20	3	0

## Sashelp.cars — 2004 Car Data

The Sashelp.cars data set provides the 2004 car data. The following steps display information about the data set Sashelp.cars and create Figure 1.15. The data set contains 428 observations.

```

title "Sashelp.cars --- 2004 Car Data";
proc contents data=sashelp.cars varnum;
  ods select position;
run;

title "The First Five Observations Out of 428";
proc print data=sashelp.cars(obs=5) noobs;
run;

title "The Type Variable";
proc freq data=sashelp.cars;
  tables Type;
run;

```

**Figure 1.15** Sashelp.cars — 2004 Car Data

### Sashelp.cars --- 2004 Car Data

#### The CONTENTS Procedure

Variables in Creation Order				
# Variable	Type	Len	Format	Label
1	Make	Char	13	
2	Model	Char	40	
3	Type	Char	8	
4	Origin	Char	6	
5	DriveTrain	Char	5	
6	MSRP	Num	8 DOLLAR8.	
7	Invoice	Num	8 DOLLAR8.	
8	EngineSize	Num	8	Engine Size (L)
9	Cylinders	Num	8	
10	Horsepower	Num	8	
11	MPG_City	Num	8	MPG (City)
12	MPG_Highway	Num	8	MPG (Highway)
13	Weight	Num	8	Weight (LBS)
14	Wheelbase	Num	8	Wheelbase (IN)
15	Length	Num	8	Length (IN)



Figure 1.15 *continued*

## The First Five Observations Out of 428

Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepower	MPG_City
Acura	MDX	SUV	Asia	All	\$36,945	\$33,337	3.5	6	265	17
Acura	RSX Type S 2dr	Sedan	Asia	Front	\$23,820	\$21,761	2.0	4	200	24
Acura	TSX 4dr	Sedan	Asia	Front	\$26,990	\$24,647	2.4	4	200	22
Acura	TL 4dr	Sedan	Asia	Front	\$33,195	\$30,299	3.2	6	270	20
Acura	3.5 RL 4dr	Sedan	Asia	Front	\$43,755	\$39,014	3.5	6	225	18

MPG_Highway	Weight	Wheelbase	Length
23	4451	106	189
31	2778	101	172
29	3230	105	183
28	3575	108	186
24	3880	115	197

## The Type Variable

## The FREQ Procedure

Type	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Hybrid	3	0.70	3	0.70
SUV	60	14.02	63	14.72
Sedan	262	61.21	325	75.93
Sports	49	11.45	374	87.38
Truck	24	5.61	398	92.99
Wagon	30	7.01	428	100.00

## Sashelp.citiday — Citibase Daily Indicators: Jan88-Feb92

The Sashelp.citiday data set provides Citibase daily indicators: Jan88–Feb92. The following steps display information about the data set Sashelp.citiday and create Figure 1.16. The data set contains 1,069 observations.

```

title "Sashelp.citiday --- Citibase Daily Indicators: Jan88-Feb92";
proc contents data=sashelp.citiday varnum;
    ods select position;
run;

title "The First Five Observations Out of 1,069";
proc print data=sashelp.citiday(obs=5) noobs;
run;

```

**Figure 1.16** Sashelp.citiday — Citibase Daily Indicators: Jan88-Feb92

### Sashelp.citiday --- Citibase Daily Indicators: Jan88-Feb92

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	7	DATE9. Date of Observation
2	SNYDJCM	Num	8	STOCK MKT INDEX:NY DOW JONES COMPOSITE,
3	SNYSECM	Num	8	STOCK MKT INDEX:NYSE COMPOSITE, (WSJ)
4	DSIUSWIL	Num	8	STOCK MKT INDEX:WILSHIRE 500, (WSJ)
5	DFXWCAN	Num	8	FOREIGN EXCH RATE WSJ:CANADA,CANADIAN \$/
6	DFXWUK90	Num	8	FOREIGN EXCH RATE WSJ:U.K.,CENTS/POUND(9
7	DSIUKAS	Num	8	STOCK MKT INDEX:U.K. - ALL SHARES
8	DSIJPN	Num	8	STOCK MKT INDEX:JAPAN - NIKKEI-DOW
9	DCP07	Num	8	7 DAY COMMERCIAL PAPER RATE, SHORT-TERM
10	DCD1M	Num	8	INT.RATE:1MO CERTIFICATES OF DEPOSIT, SH
11	DTBD3M	Num	8	INT.RATE:3MO T-BILL, DISCOUNT YIELD (FRB

#### The First Five Observations Out of 1,069

	DATE	SNYDJCM	SNYSECM	DSIUSWIL	DFXWCAN	DFXWUK90	DSIUKAS	DSIJPN	DCP07	DCD1M	DTBD3M
01	JAN1988	.	.	.	1.29630	186.950	886.500	21217.04	.	.	.
04	JAN1988	740.200	142.900	2494.93	.	.	886.500	21217.04	.	6.89000	5.88000
05	JAN1988	747.380	144.540	2526.99	.	.	908.210	21575.28	.	6.85000	5.93000
06	JAN1988	750.400	144.820	2534.49	1.28920	180.250	908.210	22790.50	.	6.87000	5.84000
07	JAN1988	757.040	145.890	2553.39	1.28700	179.930	908.490	22792.13	.	6.88000	5.78000

## Sashelp.citimon — Citibase Monthly Indicators: Jan80-Jan92

The Sashelp.citimon data set provides Citibase monthly indicators: Jan80–Jan92. The following steps display information about the data set Sashelp.citimon and create Figure 1.17. The data set contains 145 observations.

```

title "Sashelp.citimon --- Citibase Monthly Indicators: Jan80-Jan92";
proc contents data=sashelp.citimon varnum;
    ods select position;
run;

title "The First Five Observations Out of 145";
proc print data=sashelp.citimon(obs=5) noobs;
run;

```

**Figure 1.17** Sashelp.citimon — Citibase Monthly Indicators: Jan80-Jan92

### Sashelp.citimon --- Citibase Monthly Indicators: Jan80-Jan92

#### The CONTENTS Procedure

Variables in Creation Order				
# Variable	Type	Len	Format	Label
1	DATE	Num	7	MONYY7. Date of Observation
2	CCIUAC	Num	8	CONSUMER INSTAL CR OUTST'G: AUTOMOBILE,C
3	CCIUTC	Num	8	CONSUMER INSTAL CR OUTST'G: TOTAL, COM'L
4	CONB	Num	8	CONSTRUCT.PUT IN PLACE: COMM'L & INDUSTR
5	CONQ	Num	8	CONSTRUCT.PUT IN PLACE: TOTAL PUBLIC, (M
6	EEC	Num	8	ENERGY CONSUM:TOTAL(QUADRILLION BTU)
7	EEGP	Num	8	GASOLINE:RETAIL PRICE, ALL TYPES (CTS/GA
8	EXVUS	Num	8	WEIGHTED-AVERAGE EXCHANGE VALUE OF U.S.D
9	FM1	Num	8	MONEY STOCK: M1(CURR,TRAV.CKS,DEM DEP,OT
10	FM1D82	Num	8	MONEY STOCK: M-1 IN 1982\$ (BIL\$,SA)(BCD
11	FSPCAP	Num	8	S&P'S COMMON STOCK PRICE INDEX: CAPITAL
12	FSPCOM	Num	8	S&P'S COMMON STOCK PRICE INDEX: COMPOSIT
13	FSPCON	Num	8	S&P'S COMMON STOCK PRICE INDEX: CONSUMER
14	IP	Num	8	INDUSTRIAL PRODUCTION: TOTAL INDEX (1987
15	LHUR	Num	8	UNEMPLOYMENT RATE: ALL WORKERS, 16 YEARS
16	LUINC	Num	8	AVG WKLY INITIAL CLAIMS,STATE UNEMPLOY.I
17	PW	Num	8	PRODUCER PRICE INDEX: ALL COMMODITIES (8
18	RCARD	Num	8	RETAIL SALES: NEW PASSENGER CARS, DOMEST
19	RTRR	Num	8	RETAIL SALES: TOTAL (MIL\$,SA)

Figure 1.17 *continued*

## The First Five Observations Out of 145

DATE	CCIAC	CCIUTC	CONB	CONQ	EEC	EEGP	EXVUS	FM1	FM1D82	FSPCAP	FSPCOM
JAN1980	67166	153636	48579	66820	7.40300	111.000	85.5200	386.100	477.800	126.680	110.870
FEB1980	67119	153308	47759	64049	6.96200	118.600	86.3700	389.800	476.500	131.270	115.340
MAR1980	66786	152347	46705	64831	6.84800	123.000	90.2600	389.300	468.500	116.200	104.690
APR1980	65837	150937	45835	63913	5.98600	124.200	91.0900	383.700	457.300	110.200	102.970
MAY1980	65035	149238	46819	64598	5.83700	124.400	86.9600	383.200	452.400	113.460	107.690

FSPCON	IP	LHUR	LUINC	PW	RCARD	RTRR
85.0900	85.9000	6.30000	416	85.2000	8.34000	79407
83.1400	86.2000	6.30000	397	86.9000	7.86000	78787
75.5000	86.2000	6.30000	438	87.5000	7.14000	77685
76.9300	84.5000	6.90000	532	87.8000	5.92000	76658
82.8100	82.5000	7.50000	616	88.3000	5.32000	76613

## Sashelp.citiqtr — Citibase Quarterly Indicators: 80: 1-91: 4

The Sashelp.citiqtr data set provides Citibase quarterly indicators: Jan80–Apr91. The following steps display information about the data set Sashelp.citiqtr and create Figure 1.18. The data set contains 48 observations.

```

title "Sashelp.citiqtr --- Citibase Quarterly Indicators: 80: 1-91: 4";
proc contents data=sashelp.citiqtr varnum;
    ods select position;
run;

title "The First Five Observations Out of 48";
proc print data=sashelp.citiqtr(obs=5) noobs;
run;

```

**Figure 1.18** Sashelp.citiqtr — Citibase Quarterly Indicators: 80: 1-91: 4

### Sashelp.citiqtr --- Citibase Quarterly Indicators: 80: 1-91: 4

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	DATE	Num	7	YYQC6.	Date of Observation
2	BPB	Num	8		BAL OF P'MENT: BALANCE ON MERCHANDISE TRA
3	BPCR	Num	8		BAL OF P'MENT: BAL ON CURRENT A/C (INC REI
4	GC	Num	8		PERSONAL CONSUMPTION EXPENDITURES
5	GCQ	Num	8		PERSONAL CONSUMPTION EXPENDITURES (BIL.
6	GCD	Num	8		PERSONAL CONS. EXPENDITURES, DURABLE GOO
7	GCDQ	Num	8		PERSONAL CONSUMPTION EXPENDITURES: DUR GO
8	GD	Num	8		IMPLICIT PR DEFLATOR: GROSS NATIONAL PRO
9	GDP	Num	8		GROSS DOMESTIC PRODUCT (BIL.\$, SAAR)(T.1.
10	GDPQ	Num	8		GROSS DOMESTIC PRODUCT (BIL. 1987\$)(T.1.
11	GNP	Num	8		GROSS NATIONAL PRODUCT, TOTAL
12	GNPQ	Num	8		GROSS NATIONAL PRODUCT (BILL.1987\$)(T.1.
13	GY	Num	8		NATIONAL INCOME, TOTAL
14	GYD	Num	8		PERSN'L INCOME: DISPOSABLE PERSONAL INCO
15	GYDQ	Num	8		DISPOSABLE PERSONAL INCOME: TOTAL (BIL.8

#### The First Five Observations Out of 48

DATE	BPB	BPCR	GC	GCQ	GCD	GCDQ	GD	GDP	GDPQ	GNP	GNPQ	GY	GYD	GYDQ
1980:1	-10575	-2785	1701.50	2464.60	218.700	279.700	69.2000	2650.10	3830.80	2687.70	3884.60	2163.40	1893.70	2742.90
1980:2	-6253	-1197	1704.90	2414.20	198.200	246.300	70.8000	2643.90	3732.60	2679.40	3782.30	2136.80	1901.10	2692.00
1980:3	-3856	3396	1762.30	2440.30	211.300	258.400	72.5000	2705.30	3733.50	2739.80	3780.50	2189.70	1966.10	2722.50
1980:4	-4797	1704	1823.60	2469.20	221.800	266.600	74.4000	2832.90	3808.50	2861.50	3846.20	2302.90	2050.90	2777.00
1981:1	-5663	2450	1876.00	2475.50	230.800	274.400	76.5000	2953.50	3860.50	2985.50	3901.60	2375.70	2106.50	2779.70

## Sashelp.citiwk — Citibase Weekly Indicators: Dec85-Jan92

The Sashelp.citiwk data set provides Citibase weekly indicators: Dec85–Jan92. The following steps display information about the data set Sashelp.citiwk and create Figure 1.19. The data set contains 319 observations.

```

title "Sashelp.citiwk --- Citibase Weekly Indicators: Dec85-Jan92";
proc contents data=sashelp.citiwk varnum;
  ods select position;
run;

title "The First Five Observations Out of 319";
proc print data=sashelp.citiwk(obs=5) noobs;
run;

```

**Figure 1.19** Sashelp.citiwk — Citibase Weekly Indicators: Dec85-Jan92

### Sashelp.citiwk --- Citibase Weekly Indicators: Dec85-Jan92

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	DATE	Num	7	WEEKDATX16.	Date of Observation
2	MF3505	Num	8		MONEY STOCK:M1(CURRENCY+DEMAND DEP+OTHER
3	TCJ	Num	8		INDUSTRIAL MATERIALS PRICE INDEX, 18 COM
4	WSPCA	Num	8		STANDARD & POOR'S WEEKLY BOND YIELD: COM
5	WSPUA	Num	8		STANDARD & POOR'S WEEKLY BOND YIELD: UTI
6	WSPIA	Num	8		STANDARD & POOR'S WEEKLY BOND YIELD:INDU
7	WSPGLT	Num	8		STANDARD & POOR;S WEEKLY BOND YIELD: GOV
8	HFB120	Num	8		BOND BUYERS INDEX: 20 BOND GENERAL OBLIG
9	FF142B	Num	8		BOND YIELD:"A" UTILITY(RECENTLY OFFERED)
10	FCPOIL	Num	8		PETROLEUM, REFINED OIL PRICES: FUEL OIL,

#### The First Five Observations Out of 319

	DATE	MF3505	TCJ	WSPCA	WSPUA	WSPIA	WSPGLT	HFB120	FF142B	FCPOIL
	Sun, 22 Dec 85	.	.	10.4340	10.5380	10.3290	9.24000	8.33000	10.5900	0.76750
	Sun, 29 Dec 85	620.800	.	10.4900	10.4200	10.5600	9.32000	8.04000	10.8300	0.73250
	Sun, 5 Jan 86	620.900	.	10.5700	10.6900	10.4500	9.51000	8.10000	10.7500	0.64000
	Sun, 12 Jan 86	620.500	.	10.5800	10.5800	10.5800	9.50000	8.05000	10.8200	0.58250
	Sun, 19 Jan 86	622.200	.	10.2600	10.4200	10.1000	9.30000	7.86000	10.6700	0.57250

## Sashelp.citiyr — Citibase New File Format

The Sashelp.citiyr data set provides Citibase new file format. The following steps display information about the data set Sashelp.citiyr and create Figure 1.20. The data set contains 10 observations.

```

title "Sashelp.citiyr --- Citibase New File Format";
proc contents data=sashelp.citiyr varnum;
    ods select position;
run;

title "The First Five Observations Out of 10";
proc print data=sashelp.citiyr(obs=5) noobs;
run;

```

**Figure 1.20** Sashelp.citiyr — Citibase New File Format

### Sashelp.citiyr --- Citibase New File Format

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	DATE	Num	6	YEAR4.	Date of Observation
2	PAN	Num	7		POPULATION EST.: ALL AGES, INC.ARMED F.
3	PAN17	Num	7		POPULATION EST.: 16 YRS AND OVER, INC ARM
4	PAN18	Num	7		POPULATION EST.: 18-64 YRS, INC.ARMED F.O
5	PANF	Num	7		POPULATION EST.: FEMALES, ALL AGES, INC.AR
6	PANM	Num	7		POPULATION EST.: MALES, ALL AGES, INC.AR

#### The First Five Observations Out of 10

DATE	PAN	PAN17	PAN18	PANF	PANM
1980	227757	172456	138358	116869	110888
1981	230138	175017	140618	118074	112064
1982	232520	177346	142740	119275	113245
1983	234799	179480	144591	120414	114385
1984	237001	181514	146257	121507	115494

## Sashelp.class — Student Data

The Sashelp.Class data set provides information about a small fictitious class of students. Variables include Sex, Age, Height, and Weight. This data set is frequently used in SAS documentation to illustrate basic SAS coding. The following steps display information about the data set Sashelp.class and create [Figure 1.21](#). The data set contains 19 observations.

```

title "Sashelp.class --- Student Data";
proc contents data=sashelp.class varnum;
    ods select position;
run;

title "The First Five Observations Out of 19";
proc print data=sashelp.class(obs=5) noobs;
run;

```

**Figure 1.21** Sashelp.class — Student Data

### Sashelp.class --- Student Data

#### The CONTENTS Procedure

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 First Five Observations Out of 19

Name	Sex	Age	Height	Weight
Alfred	M	14	69.0	112.5
Alice	F	13	56.5	84.0
Barbara	F	13	65.3	98.0
Carol	F	14	62.8	102.5
Henry	M	14	63.5	102.5



## Sashelp.classfit — Predicted Weights With Confidence Limits

The Sashelp.classfit data set provides predicted weights with confidence limits. The following steps display information about the data set Sashelp.classfit and create [Figure 1.22](#). The data set contains 19 observations.

```

title "Sashelp.classfit --- Predicted Weights With Confidence Limits";
proc contents data=sashelp.classfit varnum;
    ods select position;
run;

title "The First Five Observations Out of 19";
proc print data=sashelp.classfit(obs=5) noobs;
run;

```

**Figure 1.22** Sashelp.classfit — Predicted Weights With Confidence Limits

### Sashelp.classfit --- Predicted Weights With Confidence Limits

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Label
1	Name	Char	8	
2	Sex	Char	1	
3	Age	Num	8	
4	Height	Num	8	
5	Weight	Num	8	
6	predict	Num	8	Predicted Value of Weight
7	lowermean	Num	8	Lower Bound of 95% C.I. for Mean
8	uppermean	Num	8	Upper Bound of 95% C.I. for Mean
9	lower	Num	8	Lower Bound of 95% C.I.(Individual Pred)
10	upper	Num	8	Upper Bound of 95% C.I.(Individual Pred)

#### The First Five Observations Out of 19

Name	Sex	Age	Height	Weight	predict	lowermean	uppermean	lower	upper
Joyce	F	11	51.3	50.5	56.9933	43.8044	70.1823	29.8835	84.103
Louise	F	12	56.3	77.0	76.4885	67.9601	85.0169	51.3145	101.662
Alice	F	13	56.5	84.0	77.2683	68.9066	85.6300	52.1503	102.386
James	M	12	57.3	83.0	80.3875	72.6671	88.1079	55.4757	105.299
Thomas	M	11	57.5	85.0	81.1673	73.6000	88.7346	56.3025	106.032

## Sashelp.comet — Comet Assay Data

The Sashelp.Comet data set provides information from the following experiment. Twenty-four male rats were divided into four groups. Three groups received a daily oral dose of a 1,2-dimethylhydrazine dihydrochloride in three dose levels (low, medium, and high, respectively); the fourth group was a control group. Three additional animals received a positive control. Cell suspensions for each animal were scored for DNA damage by using a comet assay (Ghebretinsae et al. 2013). The following steps display information about the data set Sashelp.comet and create Figure 1.23. The data set contains 4,050 observations.

```

title "Sashelp.comet --- Comet Assay Data";
proc contents data=sashelp.comet varnum;
  ods select position;
run;

title "The First Five Observations Out of 4,050";
proc print data=sashelp.comet (obs=5) noobs;
run;

```

**Figure 1.23** Sashelp.comet — Comet Assay Data

### Sashelp.comet --- Comet Assay Data

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	Dose	Num	8 1,2 Dimethylhydrazine dihydrochloride Dose Level
2	Rat	Num	8 Rat Index
3	Sample	Num	8 Slide Index of Grouped Cells from a Rat
4	Length	Num	8 Tail Length of the Comet

#### The First Five Observations Out of 4,050

Dose	Rat	Sample	Length
0	1	1	15.3527
0	1	1	16.1826
0	1	1	14.9378
0	1	1	12.4481
0	1	1	12.8631

## Sashelp.company — Several Hierarchical Levels of a Company

The Sashelp.company data set provides several hierarchical levels of a company. The following steps display information about the data set Sashelp.company and create Figure 1.24. The data set contains 48 observations.

```

title "Sashelp.company --- Several Hierarchical Levels of a Company";
proc contents data=sashelp.company varnum;
    ods select position;
run;

title "The First Five Observations Out of 48";
proc print data=sashelp.company(obs=5) noobs;
run;

```

**Figure 1.24** Sashelp.company — Several Hierarchical Levels of a Company  
**Sashelp.company --- Several Hierarchical Levels of a Company**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	LEVEL2	Char	13
2	LEVEL1	Char	16
3	LEVEL5	Char	30
4	DEPTHEAD	Char	15
5	LEVEL3	Char	20
6	LEVEL4	Char	30
7	JOB1	Char	15
8	N	Num	8

### The First Five Observations Out of 48

LEVEL2	LEVEL1	LEVEL5	DEPTHEAD	LEVEL3	LEVEL4	JOB1	N
TOKYO	International Ai	So Suumi	1	ADMIN	CONTRACTS	MANAGER	1
TOKYO	International Ai	Steffen Graff	2	ADMIN	CONTRACTS	ASSISTANT	1
TOKYO	International Ai	Karin Schmidt	2	ADMIN	FINANCE	ACCOUNTANT	1
LONDON	International Ai	Anne Bauer	1	ADMIN	PERSONNEL	MANAGER	1
TOKYO	International Ai	Barbara Bial	2	ADMIN	PERSONNEL	ADMIN	1

## Sashelp.countseries

The following steps display information about the data set Sashelp.countseries and create Figure 1.25. The data set contains 108 observations.

```

title "Sashelp.countseries";
proc contents data=sashelp.countseries varnum;
    ods select position;
run;

title "The First Five Observations Out of 108";
proc print data=sashelp.countseries(obs=5) noobs;
run;

```

**Figure 1.25** Sashelp.countseries

### Sashelp.countseries

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Format
1	Date	Num	8 DATE9.
2	Units	Num	8

#### The First Five Observations Out of 108

Date	Units
01JAN2004	0
01FEB2004	0
01MAR2004	4
01APR2004	0
01MAY2004	4

## Sashelp.demographics — Data Derived from World Population Prospects: the 2004 Revision

The Sashelp.demographics data set provides the 2004 revision of data derived from world population prospects. The following steps display information about the data set Sashelp.demographics and create Figure 1.26. The data set contains 197 observations.

```

title "Sashelp.demographics --- Data Derived from World Population Prospects: the 2004"
      " Revision";
proc contents data=sashelp.demographics varnum;
  ods select position;
run;

title "The First Five Observations Out of 197";
proc print data=sashelp.demographics (obs=5) noobs;
run;

title "The region Variable";
proc freq data=sashelp.demographics;
  tables region;
run;

```

**Figure 1.26** Sashelp.demographics — Data Derived from World Population Prospects: the 2004 Revision

### Sashelp.demographics --- Data Derived from World Population Prospects: the 2004 Revision

#### The CONTENTS Procedure

#	Variable	Variables in Creation Order			
		Type	Len	Format	Label
1	CONT	Num	8		Numeric Rep. for Continent
2	ID	Num	8		GLC Country ID Number
3	ISO	Num	8	Z3.	ISO Country Number: 900+ Undefined
4	NAME	Char	45		GLC Country Name
5	ISONAME	Char	45		ISO Name for Country
6	region	Char	6		Region
7	pop	Num	8	COMMA15.	Population (2005)
8	popAGR	Num	8	PERCENTN9.2	Population Annual Growth Rate Percentage (1995-2005)
9	popUrban	Num	8	PERCENTN9.2	Population in Urban Areas Percentage (2005)
10	totalFR	Num	8		Total Fertility Rate (per woman 2004)
11	AdolescentFPpct	Num	8	PERCENTN9.2	Adolescent Fertility Proportion Percentage
12	AdolescentFPyear	Num	8		Adolescent Fertility Proportion Year
13	AdultLiteracypct	Num	8	PERCENTN9.2	Adult Literacy Rate Percentage (2000-2004)
14	MaleSchoolpct	Num	8	PERCENTN9.2	Net Primary School Enrollment Ratio - Male Percentage (1998-2004)
15	FemaleSchoolpct	Num	8	PERCENTN9.2	Net Primary School Enrollment Ratio - Female Percentage (1998-2004)
16	GNI	Num	8		Gross National Income per Capita (PPP Int.\$ 2004)
17	PopPovertypct	Num	8	PERCENTN9.2	Population Living Below the Poverty Line (% with <\$1 a day)
18	PopPovertyYear	Num	8		Population Living Below the Poverty Line (Year)

Figure 1.26 continued

The First Five Observations Out of 197

CONT	ID	ISO	NAME	ISONAME	region	pop	popAGR	popUrban	totalFR	AdolescentFPpct	AdolescentFPyear
91	180	044	BAHAMAS	BAHAMAS	AMR	323,063	1.34%	90.00%	2.3	.	.
91	227	084	BELIZE	BELIZE	AMR	269,736	2.14%	48.60%	3.1	12.50%	1998
91	260	124	CANADA	CANADA	AMR	32,268,243	0.87%	81.10%	1.5	6.50%	1997
91	295	188	COSTA RICA	COSTA RICA	AMR	4,327,228	2.04%	61.70%	2.2	17.40%	1999
91	300	192	CUBA	CUBA	AMR	11,269,400	0.34%	76.00%	1.6	16.00%	2000

AdultLiteracypct	MaleSchoolpct	FemaleSchoolpct	GNI	PopPovertypct	PopPovertyYear
.	85.00%	88.00%	16140	.	.
76.90%	98.00%	100.00%	6510	.	.
.	100.00%	100.00%	30660	.	.
95.80%	90.00%	91.00%	9530	2.00%	2000
99.80%	96.00%	95.00%	.	.	.

The region Variable

The FREQ Procedure

Region				
region	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AFR	46	23.35	46	23.35
AMR	35	17.77	81	41.12
EMR	21	10.66	102	51.78
EUR	55	27.92	157	79.70
SEAR	11	5.58	168	85.28
WPR	29	14.72	197	100.00

## Sashelp.destop

The following steps display information about the data set Sashelp.destop and create [Figure 1.27](#). The data set contains 737 observations.

```

title "Sashelp.destop";
proc contents data=sashelp.destop varnum;
  ods select position;
run;

title "The First Five Observations Out of 737";
proc print data=sashelp.destop(obs=5) noobs;
run;

```

**Figure 1.27** Sashelp.destop

### Sashelp.destop

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	Term	Char	40
2	Role	Char	20

#### The First Five Observations Out of 737

Term	Role
ab	Prep
aber	Conj
aber	Interj
abseits	Prep
abwärts	Prep

## Sashelp.electric — Electric Power Generation and Revenue

The Sashelp.electric data set provides electric power generation and revenue. The following steps display information about the data set Sashelp.electric and create [Figure 1.28](#). The data set contains 48 observations.

```

title "Sashelp.electric --- Electric Power Generation and Revenue";
proc contents data=sashelp.electric varnum;
    ods select position;
run;

title "The First Five Observations Out of 48";
proc print data=sashelp.electric(obs=5) noobs;
run;

title "The Customer Variable";
proc freq data=sashelp.electric;
    tables Customer;
run;

```

**Figure 1.28** Sashelp.electric — Electric Power Generation and Revenue  
**Sashelp.electric --- Electric Power Generation and Revenue**

### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	Customer	Char	12	
2	Revenue	Num	8	DOLLAR10. Revenue (\$B)
3	Year	Num	8	
4	RevTip	Char	75	
5	AllPower	Num	8	COMMA10. All
6	AllTip	Char	75	
7	Coal	Num	8	COMMA10.
8	CoalTip	Char	75	
9	Nuclear	Num	8	COMMA10.
10	NukeTip	Char	75	
11	NaturalGas	Num	8	COMMA10. Natural Gas
12	GasTip	Char	75	
13	Hydro	Num	8	COMMA10. Hydropower
14	HydroTip	Char	75	
15	Other	Num	8	
16	OtherTip	Char	75	





## Sashelp.eng\_multi

The Sashelp.Eng\_multi data set contains common English phrases. The following steps display information about the data set Sashelp.eng\_multi and create Figure 1.29. The data set contains 384 observations.

```

title "Sashelp.eng_multi";
proc contents data=sashelp.eng_multi varnum;
    ods select position;
run;

title "The First Five Observations Out of 384";
proc print data=sashelp.eng_multi(obs=5) noobs;
run;

```

**Figure 1.29** Sashelp.eng\_multi

### Sashelp.eng\_multi

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	Term	Char	256	\$256.	\$256. Term
2	Role	Char	12		Role
3	numdocs	Num	8		# Documents

#### The First Five Observations Out of 384

Term	Role	numdocs
a bit	Adv	8
a fortiori	Adv	18
a lot	Adv	89
a lot of	Adj	47
a posteriori	Adj	40

## Sashelp.enso — El Nino Southern Oscillation

The Sashelp.ENS0 (El Niño–Southern Oscillation) data set contains measurements of monthly averaged atmospheric pressure differences between Easter Island and Darwin, Australia, for a period of 168 months (National Institute of Standards and Technology 1998). These pressure differences drive the southern trade winds. This data set is used to illustrate fitting nonlinear functions to a scatter plot by using methods such as loess and penalized B-splines. These data show both seasonal variations and variations due to El Niño. The following steps display information about the data set Sashelp.enso and create Figure 1.30. The data set contains 168 observations.

```

title "Sashelp.enso --- El Nino Southern Oscillation";
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) noobs;
run;

```

**Figure 1.30** Sashelp.enso — El Nino Southern Oscillation  
**Sashelp.enso --- El Nino Southern Oscillation**

### The CONTENTS Procedure

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

Month	Year	Pressure
1	0.08333	12.9
2	0.16667	11.3
3	0.25000	10.6
4	0.33333	11.2
5	0.41667	10.9

## Sashelp.enstop

The following steps display information about the data set Sashelp.enstop and create Figure 1.31. The data set contains 1,216 observations.

```

title "Sashelp.enstop";
proc contents data=sashelp.enstop varnum;
  ods select position;
run;

title "The First Five Observations Out of 1,216";
proc print data=sashelp.enstop(obs=5) noobs;
run;

```

**Figure 1.31** Sashelp.enstop

### Sashelp.enstop

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	Term	Char	40
2	Role	Char	20

#### The First Five Observations Out of 1,216

Term	Role
s	Pron
s	Prop
a	Det
a	Prop
aargh	Interj

## Sashelp.failure — MOS Capacitor Failure

The Sashelp.failure data set provides MOS capacitor failure data. The following steps display information about the data set Sashelp.failure and create [Figure 1.32](#). The data set contains 70 observations.

```

title "Sashelp.failure --- MOS Capacitor Failure";
proc contents data=sashelp.failure varnum;
    ods select position;
run;

title "The First Five Observations Out of 70";
proc print data=sashelp.failure(obs=5) noobs;
run;

title "The Cause and Process Variables";
proc freq data=sashelp.failure;
    tables Cause;
    tables Process;
run;

```

**Figure 1.32** Sashelp.failure — MOS Capacitor Failure

### Sashelp.failure --- MOS Capacitor Failure

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	Cause	Char	14		Cause of Failure
2	Process	Char	9		
3	Count	Num	8		
4	Day	Num	8	DOWNNAME.	

#### The First Five Observations Out of 70

Cause	Process	Count	Day
Contamination	Process A	15	Monday
Corrosion	Process A	2	Monday
Doping	Process A	1	Monday
Metallization	Process A	2	Monday
Miscellaneous	Process A	3	Monday

**Figure 1.32** *continued***The Cause and Process Variables****The FREQ Procedure**

Cause of Failure				
Cause	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Contamination	10	14.29	10	14.29
Corrosion	10	14.29	20	28.57
Doping	10	14.29	30	42.86
Metallization	10	14.29	40	57.14
Miscellaneous	10	14.29	50	71.43
Oxide Defect	10	14.29	60	85.71
Silicon Defect	10	14.29	70	100.00

Process	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Process A	35	50.00	35	50.00
Process B	35	50.00	70	100.00

## Sashelp.fish — Measurements of 159 Fish Caught in Lake Laengelmaevesi, Finland

The Sashelp.Fish data set contains measurements of 159 fish that were caught in Finland's Lake Laengelmaevesi (Puranen 1917); it is used to illustrate discriminant analysis. For each of the seven species (bream, roach, whitefish, parkki, perch, pike, and smelt), the weight, length, height, and width of each fish are tallied. Three different length measurements are recorded: from the nose of the fish to the beginning of its tail, from the nose to the notch of its tail, and from the nose to the end of its tail. The height and width are recorded as percentages of the third length variable. The following steps display information about the data set Sashelp.fish and create Figure 1.33. The data set contains 159 observations.

```

title "Sashelp.fish --- Measurements of 159 Fish Caught in Lake Laengelmaevesi, Finland";
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) noobs;
run;

title "The Species Variable";
proc freq data=sashelp.fish;
    tables Species;
run;

```

**Figure 1.33** Sashelp.fish — Measurements of 159 Fish Caught in Lake Laengelmaevesi, Finland  
**Sashelp.fish --- Measurements of 159 Fish Caught in Lake Laengelmaevesi, Finland**

### The CONTENTS Procedure

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

Species	Weight	Length1	Length2	Length3	Height	Width
Bream	242	23.2	25.4	30.0	11.5200	4.0200
Bream	290	24.0	26.3	31.2	12.4800	4.3056
Bream	340	23.9	26.5	31.1	12.3778	4.6961
Bream	363	26.3	29.0	33.5	12.7300	4.4555
Bream	430	26.5	29.0	34.0	12.4440	5.1340

**Figure 1.33** *continued*  
**The Species Variable**  
**The FREQ Procedure**

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



## Sashelp.frnch\_multi

The Sashelp.Frnch\_multi data set contains common French phrases. The following steps display information about the data set Sashelp.frnch\_multi and create [Figure 1.34](#). The data set contains 1,924 observations.

```

title "Sashelp.frnch_multi";
proc contents data=sashelp.frnch_multi varnum;
    ods select position;
run;

title "The First Five Observations Out of 1,924";
proc print data=sashelp.frnch_multi(obs=5) noobs;
run;

```

**Figure 1.34** Sashelp.frnch\_multi

### Sashelp.frnch\_multi

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	Role	Char	12		Role
2	Term	Char	256	\$256.	\$256. Term
3	numdocs	Num	8		# Documents

#### The First Five Observations Out of 1,924

Role	Term	numdocs
Prep	a cause de	5
Prep	a cause d'	1
Adv	a ce jour	10
Adv	a ce stade	20
Prep	a ce stade des	1

## Sashelp.frstop

The following steps display information about the data set Sashelp.frstop and create Figure 1.35. The data set contains 890 observations.

```

title "Sashelp.frstop";
proc contents data=sashelp.frstop varnum;
    ods select position;
run;

title "The First Five Observations Out of 890";
proc print data=sashelp.frstop(obs=5) noobs;
run;

```

**Figure 1.35** Sashelp.frstop

### Sashelp.frstop

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	Term	Char	40
2	Role	Char	20

#### The First Five Observations Out of 890

Term	Role
abdomino	Pref
abiéto	Pref
académico	Pref
achromo	Pref
acido	Pref

## Sashelp.ftable

The following steps display information about the data set Sashelp.ftable and create [Figure 1.36](#). The data set contains 133,050 observations.

```

title "Sashelp.ftable";
proc contents data=sashelp.ftable varnum;
    ods select position;
run;

title "The First Five Observations Out of 133,050";
proc print data=sashelp.ftable(obs=5) noobs;
run;

```

**Figure 1.36** Sashelp.ftable

### Sashelp.ftable

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	FEANAME	Char	30

#### The First Five Observations Out of 133,050

FEANAME
Stream
Burlington Northern Railroad
Conrail Railroad
Main
Union Pacific Railroad

## Sashelp.gas — Nitrogen Oxide Emissions from a Single Cylinder Engine

The Sashelp.Gas data set contains data from an experiment about gasoline engine exhaust emissions (Brinkman 1981). Nitrogen oxide emissions from a single-cylinder engine are measured for various combinations of fuel, compression ratio, and equivalence ratio. This data set is used to illustrate fitting models with nonlinearly transformed data. The following steps display information about the data set Sashelp.gas and create Figure 1.37. The data set contains 171 observations.

```

title "Sashelp.gas --- Nitrogen Oxide Emissions from a Single Cylinder Engine";
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) noobs;
run;

title "The Fuel Variable";
proc freq data=sashelp.gas;
    tables Fuel;
run;

```

**Figure 1.37** Sashelp.gas — Nitrogen Oxide Emissions from a Single Cylinder Engine  
**Sashelp.gas --- Nitrogen Oxide Emissions from a Single Cylinder Engine**

### The CONTENTS Procedure

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

Fuel	CpRatio	EqRatio	NOx
Ethanol	12	0.907	3.741
Ethanol	12	0.761	2.295
Ethanol	12	1.108	1.498
Ethanol	12	1.016	2.881
Ethanol	12	1.189	0.760

**Figure 1.37** *continued*

**The Fuel Variable**

**The FREQ Procedure**

Fuel	Frequency	Percent	Cumulative	
			Frequency	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

## Sashelp.gcdirect — Standard Street Direction Abbreviations for US Geocoding

The Sashelp.gcdirect data set provides standard street direction abbreviations for geocoding, updated July 2012. The following steps display information about the data set Sashelp.gcdirect and create Figure 1.38. The data set contains 16 observations.

```

title "Sashelp.gcdirect --- Standard Street Direction Abbreviations for US Geocoding";
proc contents data=sashelp.gcdirect varnum;
    ods select position;
run;

title "The First Five Observations Out of 16";
proc print data=sashelp.gcdirect (obs=5) noobs;
run;

```

**Figure 1.38** Sashelp.gcdirect — Standard Street Direction Abbreviations for US Geocoding  
**Sashelp.gcdirect --- Standard Street Direction Abbreviations for US Geocoding**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	DIRECTION	Char	20 Street direction prefix/suffix or abbreviation
2	DIRABRV	Char	10 Street direction abbreviation

### The First Five Observations Out of 16

DIRECTION	DIRABRV
E	E
EAST	E
N	N
NE	NE
NORTH	N

## Sashelp.gcstate — State/Province Names and Abbreviations for Geocoding

The Sashelp.gcstate data set provides state/province/region names and abbreviations for geocoding. The following steps display information about the data set Sashelp.gcstate and create [Figure 1.39](#). The data set contains 74 observations.

```

title "Sashelp.gcstate --- State/Province Names and Abbreviations for Geocoding";
proc contents data=sashelp.gcstate varnum;
    ods select position;
run;

title "The First Five Observations Out of 74";
proc print data=sashelp.gcstate(obs=5) noobs;
run;

```

**Figure 1.39** Sashelp.gcstate — State/Province Names and Abbreviations for Geocoding  
Sashelp.gcstate --- State/Province Names and Abbreviations for Geocoding

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	MapIDName	Char	65 State/province name
2	MapIDName2	Char	65 Normalized state/province name
3	MapIDNameAbv	Char	5 State/province abbreviation
4	ISOname	Char	18 ISO country name
5	ISOalpha2	Char	2 ISO alpha2 country code
6	ISOalpha3	Char	3 ISO alpha3 country code
7	StateAlias	Char	128 State abbreviations other than postal standards
8	ISOname2	Char	18 Normalized ISO country name

### The First Five Observations Out of 74

MapIDName	MapIDName2	MapIDNameAbv	ISOname	ISOalpha2	ISOalpha3	StateAlias	ISOname2
Alberta	ALBERTA	AB	Canada	CA	CAN	Alb   Alta.	CANADA
Alaska	ALASKA	AK	United States	US	USA	Alas.	UNITEDSTATES
Alabama	ALABAMA	AL	United States	US	USA	Ala.	UNITEDSTATES
Arkansas	ARKANSAS	AR	United States	US	USA	Ark.	UNITEDSTATES
American Samoa	AMERICANSAMOA	AS	United States	US	USA	A.S.	UNITEDSTATES

## Sashelp.gctype — Street Type Abbreviations for US Geocoding

The Sashelp.gctype data set provides USPS standard street type abbreviations for geocoding. The following steps display information about the data set Sashelp.gctype and create Figure 1.40. The data set contains 812 observations.

```

title "Sashelp.gctype --- Street Type Abbreviations for US Geocoding";
proc contents data=sashelp.gctype varnum;
    ods select position;
run;

title "The First Five Observations Out of 812";
proc print data=sashelp.gctype(obs=5) noobs;
run;

```

**Figure 1.40** Sashelp.gctype — Street Type Abbreviations for US Geocoding  
**Sashelp.gctype --- Street Type Abbreviations for US Geocoding**

### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Label
1	name	Char	21	Common prefix/suffix including abbreviations (cleaned)
2	type	Char	14	USPS standard abbreviation
3	GROUP	Num	8	Equivalent grouping

### The First Five Observations Out of 812

name	type	GROUP
4WDTRL	4WD TRL	2
AID	CO ST AID HWY	90
ALLEE	ALY	4
ALLEY	ALY	4
ALLY	ALY	4



## Sashelp.geoexm — Primary Street Lookup Data for PROC GEOCODE (Tiger 2014)

The Sashelp.geoexm data set provides primary street lookup data for PROC GEOCODE. The following steps display information about the data set Sashelp.geoexm and create [Figure 1.41](#). The data set contains 20,699 observations.

```

title "Sashelp.geoexm --- Primary Street Lookup Data for PROC GEOCODE (Tiger 2014)";
proc contents data=sashelp.geoexm varnum;
    ods select position;
run;

title "The First Five Observations Out of 20,699";
proc print data=sashelp.geoexm(obs=5) noobs;
run;

```

**Figure 1.41** Sashelp.geoexm — Primary Street Lookup Data for PROC GEOCODE (Tiger 2014)  
**Sashelp.geoexm --- Primary Street Lookup Data for PROC GEOCODE (Tiger 2014)**

### The CONTENTS Procedure

# Variable	Variables in Creation Order			
	Type	Len	Format	Label
1 Name	Char	25		Street name
2 Name2	Char	22		Street name (normalized)
3 City	Char	20		City name
4 City2	Char	12		City name (normalized)
5 MapIDNameAbrv	Char	2		State abbreviation
6 ZIP	Num	8	Z5.	ZIP Code
7 ZCTA	Num	8	Z5.	ZIP Code Tabulation Area
8 First	Num	8		First obs in GEOEXS data set
9 Last	Num	8		Last obs in GEOEXS data set

### The First Five Observations Out of 20,699

Name	Name2	City	City2	MapIDNameAbrv	ZIP	ZCTA	First	Last
Wake County, NC streets	TIGER 2017 data	TIGER2GEOCODE: V15 Sept. 2018			.	.	.	.
1	1	Apex	APEX	NC	. 27562		1	2
1	1	Cary	CARY	NC	. 27606		3	10
1	1	Holly Springs	HOLLYSPRINGS	NC	. 27502		11	14
1	1	Apex	APEX	NC	27502	27502	21	30

## Sashelp.geoexp — Tertiary Street Lookup Data for PROC GEOCODE (Tiger 2014)

The Sashelp.geoexp data set provides tertiary street lookup data for PROC GEOCODE (Tiger 2011). The following steps display information about the data set Sashelp.geoexp and create [Figure 1.42](#). The data set contains 470,203 observations.

```

title "Sashelp.geoexp --- Tertiary Street Lookup Data for PROC GEOCODE (Tiger 2014)";
proc contents data=sashelp.geoexp varnum;
    ods select position;
run;

title "The First Five Observations Out of 470,203";
proc print data=sashelp.geoexp(obs=5) noobs;
run;

```

**Figure 1.42** Sashelp.geoexp — Tertiary Street Lookup Data for PROC GEOCODE (Tiger 2014)  
**Sashelp.geoexp --- Tertiary Street Lookup Data for PROC GEOCODE (Tiger 2014)**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	X	Num	8 Longitude (degrees)
2	Y	Num	8 Latitude (degrees)

### The First Five Observations Out of 470,203

X	Y
-78.5811	35.9364
-78.5814	35.9365
-78.5815	35.9365
-78.5816	35.9364
-78.5816	35.9364

## Sashelp.geoexs — Secondary Street Lookup Data for PROC GEOCODE (Tiger 2014)

The Sashelp.geoexs data set provides secondary street lookup data for PROC GEOCODE (Tiger 2011). The following steps display information about the data set Sashelp.geoexs and create [Figure 1.43](#). The data set contains 121,648 observations.

```

title "Sashelp.geoexs --- Secondary Street Lookup Data for PROC GEOCODE (Tiger 2014)";
proc contents data=sashelp.geoexs varnum;
    ods select position;
run;

title "The First Five Observations Out of 121,648";
proc print data=sashelp.geoexs(obs=5) noobs;
run;

```

**Figure 1.43** Sashelp.geoexs — Secondary Street Lookup Data for PROC GEOCODE (Tiger 2014)  
**Sashelp.geoexs --- Secondary Street Lookup Data for PROC GEOCODE (Tiger 2014)**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	PreDirAbv	Char	2 Street direction prefix
2	SufDirAbv	Char	2 Street direction suffix
3	PreTypAbv	Char	9 Street type prefix
4	SufTypAbv	Char	8 Street type suffix
5	TLID	Num	8 TIGER/Line ID
6	MTFCC	Char	5 MAF/TIGER Feature Class Code
7	Side	Char	1 Side of street
8	FromAdd	Num	8 Beginning house number
9	ToAdd	Num	8 Ending house number
10	BlkGrp	Num	8 Census 2010 Block Group
11	Block	Num	8 Census 2010 Block
12	Tract	Num	8 Census 2010 Tract
13	CountyFp	Num	8 County FIPS Code
14	N	Num	8 Number of obs in GEOEXP data set
15	Start	Num	8 First obs in GEOEXP data set

### The First Five Observations Out of 121,648

PreDirAbv	SufDirAbv	PreTypAbv	SufTypAbv	TLID	MTFCC	Side	FromAdd	ToAdd	BlkGrp	Block	Tract	CountyFp	N	Start
	US Hwy			642086698	S1400	L	.	.	2	2019	53413	183	2	302701
	US Hwy			642086758	S1400	L	.	.	2	2033	53413	183	3	302913
	US Hwy			208347960	S1200	L	.	.	1	1010	53003	183	4	365652
	US Hwy			208347960	S1200	R	.	.	1	1009	53003	183	4	365652
	US Hwy			208352654	S1200	L	.	.	1	1007	53003	183	4	367245

## Sashelp.germ\_multi

The Sashelp.Germ\_multi data set contains common German phrases. The following steps display information about the data set Sashelp.germ\_multi and create [Figure 1.44](#). The data set contains 15 observations.

```

title "Sashelp.germ_multi";
proc contents data=sashelp.germ_multi varnum;
  ods select position;
run;

title "The First Five Observations Out of 15";
proc print data=sashelp.germ_multi(obs=5) noobs;
run;

```

**Figure 1.44** Sashelp.germ\_multi

### Sashelp.germ\_multi

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	Role	Char	12		Role
2	Term	Char	256	\$256.	\$256. Term
3	numdocs	Num	8		# Documents

#### The First Five Observations Out of 15

Role	Term	numdocs
Adj	bergisch gladbacher	2
Adj	gang und gäbe	5
Adj	new yorker	33
Adv	de jure	47
Adv	unter anderem	2325

## Sashelp.gisimp — GISIMP: SAS/GIS Import Data Set

The Sashelp.gisimp data set provides default values used to initialize various fields in the SAS/GIS Import Window. See *SAS/GIS Spatial Data and Procedure Guide* for more information about this data set. The following steps display information about the data set Sashelp.gisimp and create [Figure 1.45](#). The data set contains 19 observations.

```

title "Sashelp.gisimp --- GISIMP: SAS/GIS Import Data Set";
proc contents data=sashelp.gisimp varnum;
    ods select position;
run;

title "The First Five Observations Out of 19";
proc print data=sashelp.gisimp(obs=5) noobs;
run;

title "The TYPE Variable";
proc freq data=sashelp.gisimp;
    tables TYPE;
run;

```

**Figure 1.45** Sashelp.gisimp — GISIMP: SAS/GIS Import Data Set

### Sashelp.gisimp --- GISIMP: SAS/GIS Import Data Set

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	TYPE	Char	8
2	FILE_DES	Char	50
3	FILEREF	Char	8
4	REQ	Num	8
5	MAINMETH	Char	35
6	METH	Char	8
7	DTYPE	Char	3
8	SAVE_VAR	Num	8
9	SAVE_LYR	Num	8
10	DEP	Char	200
11	DEFMLIB	Char	8
12	DEFSLIB	Char	8

Figure 1.45 *continued*

## The First Five Observations Out of 19

TYPE	FILE_DES	FILEREF	REQ	MAINMETH	METH	DTYPE	SAVE_VAR	SAVE_LYR	DEP	DEFMLIB	DEFSLIB
Tiger	TIGER basic data record	TIGER1	1	SASHELP.GISIMP.SUBTIGER.SCL	TIGER	ASC	0	0		Sasuser	Sasuser
Tiger	TIGER shape coordinate points	TIGER2	1	SASHELP.GISIMP.SUBTIGER.SCL	TIGER	ASC	0	0		Sasuser	Sasuser
Tiger	TIGER index to alternate feature names	TIGER4	0	SASHELP.GISIMP.SUBTIGER.SCL	TIGER	ASC	0	0		Sasuser	Sasuser
Tiger	TIGER feature name list	TIGER5	0	SASHELP.GISIMP.SUBTIGER.SCL	TIGER	ASC	0	0		Sasuser	Sasuser
Tiger	TIGER additional address and zip code data	TIGER6	0	SASHELP.GISIMP.SUBTIGER.SCL	TIGER	ASC	0	0		Sasuser	Sasuser

## The TYPE Variable

## The FREQ Procedure

TYPE	Frequency		Cumulative	
	Frequency	Percent	Frequency	Percent
ARC	1	5.26	1	5.26
DLG	1	5.26	2	10.53
DXF	1	5.26	3	15.79
Dynamap	5	26.32	8	42.11
Genline	1	5.26	9	47.37
Genpoint	1	5.26	10	52.63
Genpoly	1	5.26	11	57.89
Mapinfo	2	10.53	13	68.42
SASGRAPH	1	5.26	14	73.68
Tiger	5	26.32	19	100.00

## Sashelp.gngsmp1 — Sample Chart Data for Graph-N-Go

The Sashelp.gngsmp1 data set provides sample chart data for Graph-N-Go. The following steps display information about the data set Sashelp.gngsmp1 and create [Figure 1.46](#). The data set contains 36 observations.

```

title "Sashelp.gngsmp1 --- Sample Chart Data for Graph-N-Go";
proc contents data=sashelp.gngsmp1 varnum;
  ods select position;
run;

title "The First Five Observations Out of 36";
proc print data=sashelp.gngsmp1(obs=5) noobs;
run;

title "The group and categoryc Variables";
proc freq data=sashelp.gngsmp1;
  tables group;
  tables categoryc;
run;

```

**Figure 1.46** Sashelp.gngsmp1 — Sample Chart Data for Graph-N-Go

### Sashelp.gngsmp1 --- Sample Chart Data for Graph-N-Go

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	group	Char	7 Group
2	categoryc	Char	2 Category
3	seriesc	Char	2 Series
4	catc	Char	2 Category
5	categoryn	Num	8 Category
6	catn	Num	8 Category
7	seriesn	Num	8 Series
8	subgroup	Char	10 Subgroup
9	response	Num	8 Response
10	response1	Num	8 Response 1
11	response2	Num	8 Response 2
12	response3	Num	8 Response 3
13	response4	Num	8 Response 4

#### The First Five Observations Out of 36

group	categoryc	seriesc	catc	categoryn	catn	seriesn	subgroup	response	response1	response2	response3	response4
Group 1 B	d	B	B	15	15	6	Subgroup 1	1	4	3	2	1
Group 1 B	d	B	B	15	15	6	Subgroup 1	1	4	3	2	1
Group 1 B	d	B	B	15	15	6	Subgroup 2	3	6	5	4	3
Group 1 A	d	A	A	10	10	6	Subgroup 1	1	4	3	2	1
Group 1 A	d	A	A	10	10	6	Subgroup 2	2	5	4	3	2

**Figure 1.46** *continued***The group and categoryc Variables****The FREQ Procedure**

<b>Group</b>				
<b>group</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
<b>Group 1</b>	21	58.33	21	58.33
<b>Group 2</b>	15	41.67	36	100.00

<b>Category</b>				
<b>categoryc</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
<b>A</b>	4	11.11	4	11.11
<b>B</b>	5	13.89	9	25.00
<b>C</b>	5	13.89	14	38.89
<b>D</b>	4	11.11	18	50.00
<b>E</b>	5	13.89	23	63.89
<b>F</b>	5	13.89	28	77.78
<b>G</b>	2	5.56	30	83.33
<b>H</b>	4	11.11	34	94.44
<b>I</b>	2	5.56	36	100.00



## Sashelp.gngsmp2

The Sashelp.gngsmp2 data set provides sample data for Graph-N-Go. The following steps display information about the data set Sashelp.gngsmp2 and create [Figure 1.47](#). The data set contains 8 observations.

```

title "Sashelp.gngsmp2";
proc contents data=sashelp.gngsmp2 varnum;
    ods select position;
run;

title "The First Five Observations Out of 8";
proc print data=sashelp.gngsmp2 (obs=5) noobs;
run;

```

**Figure 1.47** Sashelp.gngsmp2

### Sashelp.gngsmp2

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	Xn	Num	8		X-axis
2	Xc	Char	5		X-axis
3	Y	Num	8		Y-axis
4	ID	Char	5		ID
5	Y1	Num	8		
6	Y2	Num	8		
7	Y3	Num	8		
8	Y4	Num	8		
9	Date	Num	8	DATE.	
10	Time	Num	8	TIME5.	
11	DateTime	Num	8	DATETIME14.	

#### The First Five Observations Out of 8

Xn	Xc	Y	ID	Y1	Y2	Y3	Y4	Date	Time	DateTime
10	b	1	A	10	22	30	38	01JAN00	12:00	01JAN00:12:00
20	a	2	A	13	18	30	39	02JAN00	12:01	01JAN00:12:01
30	c	5	A	15	16	30	32	03JAN00	12:02	01JAN00:12:02
40	g	4	A	18	16	26	36	04JAN00	12:03	01JAN00:12:03
50	h	4	B	23	19	24	37	05JAN00	12:04	01JAN00:12:04

## Sashelp.gnp — GNP/Macro Data (Quarterly: 1960-1991)

The Sashelp.gnp data set provides GNP/macro data (quarterly: 1960–1991). The following steps display information about the data set Sashelp.gnp and create Figure 1.48. The data set contains 126 observations.

```

title "Sashelp.gnp --- GNP/Macro Data (Quarterly: 1960-1991)";
proc contents data=sashelp.gnp varnum;
    ods select position;
run;

title "The First Five Observations Out of 126";
proc print data=sashelp.gnp(obs=5) noobs;
run;

```

**Figure 1.48** Sashelp.gnp — GNP/Macro Data (Quarterly: 1960-1991)

### Sashelp.gnp --- GNP/Macro Data (Quarterly: 1960-1991)

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	DATE	Num	8	YYQ.	
2	GNP	Num	8		gross national product (\$billions)
3	CONSUMP	Num	8		personal consumption expenditures
4	INVEST	Num	8		gross private domestic investment
5	EXPORTS	Num	8		net exports of goods and services
6	GOVT	Num	8		govt purchases of goods and services

#### The First Five Observations Out of 126

	DATE	GNP	CONSUMP	INVEST	EXPORTS	GOVT
	1960Q1	516.1	325.5	88.7	4.3	97.6
	1960Q2	514.5	331.6	78.1	5.1	99.6
	1960Q3	517.7	331.7	77.4	6.5	102.1
	1960Q4	513.0	333.8	68.5	7.7	103.0
	1961Q1	517.4	334.4	69.5	8.3	105.3

## Sashelp.gridded — Gridded Weight and Height

The Sashelp.gridded data set provides gridded weight and height. The following steps display information about the data set Sashelp.gridded and create Figure 1.49. The data set contains 3,600 observations.

```

title "Sashelp.gridded --- Gridded Weight and Height";
proc contents data=sashelp.gridded varnum;
    ods select position;
run;

title "The First Five Observations Out of 3,600";
proc print data=sashelp.gridded(obs=5) noobs;
run;

```

**Figure 1.49** Sashelp.gridded — Gridded Weight and Height

### Sashelp.gridded --- Gridded Weight and Height

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	Height	Num	8
2	Weight	Num	8
3	Count	Num	8
4	Density	Num	8

#### The First Five Observations Out of 3,600

Height	Weight	Count	Density
51.5000	67	0	.000004354
51.9237	67	0	.000003857
52.3475	67	0	.000002682
52.7712	67	0	.000001466
53.1949	67	0	.000000638

## Sashelp.gulfoil — Monthly Oil and Gas Production

The Sashelp.gulfoil data set provides monthly oil and gas production. The following steps display information about the data set Sashelp.gulfoil and create Figure 1.50. The data set contains 3,760 observations.

```

title "Sashelp.gulfoil --- Monthly Oil and Gas Production";
proc contents data=sashelp.gulfoil varnum;
    ods select position;
run;

title "The First Five Observations Out of 3,760";
proc print data=sashelp.gulfoil(obs=5) noobs;
run;

title "The regionname Variable";
proc freq data=sashelp.gulfoil;
    tables regionname;
run;

```

**Figure 1.50** Sashelp.gulfoil — Monthly Oil and Gas Production  
**Sashelp.gulfoil --- Monthly Oil and Gas Production**

### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	regionname	Char	7		Region within Gulf of Mexico
2	protractionname	Char	23		Geographic Protraction Area Name
3	date	Num	8	MONYY7.	Time ID (monthly)
4	oil	Num	8	COMMA12.	Oil (Barrels)
5	gas	Num	8	COMMA12.	Gas (Thousand Cubic Feet)

### The First Five Observations Out of 3,760

regionname	protractionname	date	oil	gas
Central	Bay Marchand Area	JAN1996	93,830	140,339
Central	Bay Marchand Area	FEB1996	86,595	105,069
Central	Bay Marchand Area	MAR1996	92,827	99,941
Central	Bay Marchand Area	APR1996	88,746	72,398
Central	Bay Marchand Area	MAY1996	67,987	74,693

### The regionname Variable

#### The FREQ Procedure

Region within Gulf of Mexico				
regionname	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Central	2582	68.67	2582	68.67
Western	1178	31.33	3760	100.00

## Sashelp.heart — Framingham Heart Study

The Sashelp.heart data set provides results from the Framingham Heart Study. The following steps display information about the data set Sashelp.heart and create [Figure 1.51](#). The data set contains 5,209 observations.

```

title "Sashelp.heart --- Framingham Heart Study";
proc contents data=sashelp.heart varnum;
    ods select position;
run;

title "The First Five Observations Out of 5,209";
proc print data=sashelp.heart(obs=5) noobs;
run;

title "The Status and DeathCause Variables";
proc freq data=sashelp.heart;
    tables Status;
    tables DeathCause;
run;

```

**Figure 1.51** Sashelp.heart — Framingham Heart Study

### Sashelp.heart --- Framingham Heart Study

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	Status	Char	5
2	DeathCause	Char	26 Cause of Death
3	AgeCHDdiag	Num	8 Age CHD Diagnosed
4	Sex	Char	6
5	AgeAtStart	Num	8 Age at Start
6	Height	Num	8
7	Weight	Num	8
8	Diastolic	Num	8
9	Systolic	Num	8
10	MRW	Num	8 Metropolitan Relative Weight
11	Smoking	Num	8
12	AgeAtDeath	Num	8 Age at Death
13	Cholesterol	Num	8
14	Chol_Status	Char	10 Cholesterol Status
15	BP_Status	Char	7 Blood Pressure Status
16	Weight_Status	Char	11 Weight Status
17	Smoking_Status	Char	17 Smoking Status

Figure 1.51 *continued*

## The First Five Observations Out of 5,209

Status	DeathCause	AgeCHDdiag	Sex	AgeAtStart	Height	Weight	Diastolic	Systolic	MRW	Smoking	AgeAtDeath
Dead	Other	.	Female	29	62.50	140	78	124	121	0	55
Dead	Cancer	.	Female	41	59.75	194	92	144	183	0	57
Alive	.	.	Female	57	62.25	132	90	170	114	10	.
Alive	.	.	Female	39	65.75	158	80	128	123	0	.
Alive	.	.	Male	42	66.00	156	76	110	116	20	.

Cholesterol	Chol_Status	BP_Status	Weight_Status	Smoking_Status
.	.	Normal	Overweight	Non-smoker
181	Desirable	High	Overweight	Non-smoker
250	High	High	Overweight	Moderate (6-15)
242	High	Normal	Overweight	Non-smoker
281	High	Optimal	Overweight	Heavy (16-25)

## The Status and DeathCause Variables

## The FREQ Procedure

Status	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Alive	3218	61.78	3218	61.78
Dead	1991	38.22	5209	100.00

DeathCause	Cause of Death		Cumulative Frequency	Cumulative Percent
	Frequency	Percent		
Cancer	539	27.07	539	27.07
Cerebral Vascular Disease	378	18.99	917	46.06
Coronary Heart Disease	605	30.39	1522	76.44
Other	357	17.93	1879	94.37
Unknown	112	5.63	1991	100.00
Frequency Missing = 3218				

## Sashelp.holiday — Holiday Data for En US and En CA Locale

The Sashelp.holiday data set provides holiday data for EN\_US and EN\_CA locale. The following steps display information about the data set Sashelp.holiday and create Figure 1.52. The data set contains 27 observations.

```

title "Sashelp.holiday --- Holiday Data for En US and En CA Locale";
proc contents data=sashelp.holiday varnum;
    ods select position;
run;

title "The First Five Observations Out of 27";
proc print data=sashelp.holiday(obs=5) noobs;
run;

```

**Figure 1.52** Sashelp.holiday — Holiday Data for En US and En CA Locale

### Sashelp.holiday --- Holiday Data for En US and En CA Locale

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	name	Char	32
2	desc	Char	64
3	category	Char	32
4	begin	Num	8
5	end	Num	8
6	month	Num	8
7	day	Num	8
8	rule	Num	8

#### The First Five Observations Out of 27

name	desc	category	begin	end	month	day	rule
BOXING	Boxing Day	en_CA	.	.	12	26	0
CANADA	Canadian Independence Day	en_CA	.	.	7	1	0
CANADAOBSERVED	Canadian Independence Day observed	en_CA	.	.	7	1	8
CHRISTMAS	Christmas	en_US	.	.	12	25	0
CHRISTMAS	Christmas	en_CA	.	.	12	25	0

## Sashelp.humid — Source: W. L. Donn, Meteorology, 4th Edition

The following steps display information about the data set Sashelp.humid and create Figure 1.53. The data set contains 584 observations.

```

title "Sashelp.humid --- Source: W. L. Donn, Meteorology, 4th Edition";
proc contents data=sashelp.humid varnum;
  ods select position;
run;

title "The First Five Observations Out of 584";
proc print data=sashelp.humid(obs=5) noobs;
run;

```

**Figure 1.53** Sashelp.humid — Source: W. L. Donn, Meteorology, 4th Edition  
**Sashelp.humid --- Source: W. L. Donn, Meteorology, 4th Edition**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	BulbTemp	Num	8 Wet-Bulb Temperature (F)
2	Humidity	Num	8 Relative Humidity (%)
3	AirTemp	Num	8 Air Temperature (F)
4	ColorVar	Char	8

### The First Five Observations Out of 584

	BulbTemp	Humidity	AirTemp	ColorVar
1	67	0	CX0000FF	
2	33	0	CX0000FF	
3	1	0	CX0000FF	
1	73	5	CX0900F6	
2	46	5	CX0900F6	



## Sashelp.iris — Fisher's Iris Data (1936)

The Sashelp.Iris data set (Fisher 1936) is widely used for examples of discriminant analysis and cluster analysis. The data are measurements in millimeters of the sepal length, sepal width, petal length, and petal width of 50 iris specimens from each of three species: *Iris setosa*, *I. versicolor*, and *I. virginica*. The following steps display information about the data set Sashelp.iris and create [Figure 1.54](#). The data set contains 150 observations.

```

title "Sashelp.iris --- Fisher's Iris Data (1936)";
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) noobs;
run;

title "The Species Variable";
proc freq data=sashelp.iris;
    tables Species;
run;

```

**Figure 1.54** Sashelp.iris — Fisher's Iris Data (1936)

### Sashelp.iris --- Fisher's Iris Data (1936)

#### The CONTENTS Procedure

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

Species	SepalLength	SepalWidth	PetalLength	PetalWidth
Setosa	50	33	14	2
Setosa	46	34	14	3
Setosa	46	36	10	2
Setosa	51	33	17	5
Setosa	55	35	13	2

**Figure 1.54** *continued*  
**The Species Variable**  
**The FREQ Procedure**

---

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

---

## Sashelp.ital\_multi

The Sashelp.ital\_multi data set contains common Italian phrases. The following steps display information about the data set Sashelp.ital\_multi and create [Figure 1.55](#). The data set contains 457 observations.

```

title "Sashelp.ital_multi";
proc contents data=sashelp.ital_multi varnum;
    ods select position;
run;

title "The First Five Observations Out of 457";
proc print data=sashelp.ital_multi(obs=5) noobs;
run;

```

**Figure 1.55** Sashelp.ital\_multi

### Sashelp.ital\_multi

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	Role	Char	12		Role
2	Term	Char	256	\$256.	\$256. Term
3	numdocs	Num	8		# Documents

#### The First Five Observations Out of 457

Role	Term	numdocs
Prep	a cagione della	2
Adv	a caso	138
Prep	a causa d'	1
Prep	a causa degli	92
Prep	a causa dei	211

## Sashelp.ja

The Sashelp.ja data set provides a DBCS translation tables. JA is for Japanese. The following steps display information about the data set Sashelp.ja and create [Figure 1.56](#). The data set contains 7,923 observations.

```

title "Sashelp.ja";
proc contents data=sashelp.ja varnum;
  ods select position;
run;

title "The First Five Observations Out of 7,923";
proc print data=sashelp.ja(obs=5) noobs;
run;

```

**Figure 1.56** Sashelp.ja

### Sashelp.ja

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	unicode	Char	6
2	euc	Char	4
3	ibm	Char	4
4	jis	Char	4
5	pcibm	Char	4

#### The First Five Observations Out of 7,923

unicode	euc	ibm	jis	pcibm
U+3000	A1A1	4040	2121	8140
U+3001	A1A2	4344	2122	8141
U+3002	A1A3	4341	2123	8142
U+FF0C	A1A4	426B	2124	8143
U+FF0E	A1A5	424B	2125	8144

---

## Sashelp.junkmail — Classifying Email as Junk Or Not

The Sashelp.JunkMail data set comes from a study that classifies whether an email is junk email (coded as 1) or not (coded as 0) (Asuncion and Newman 2007). The data were collected in Hewlett-Packard labs and donated by George Forman. The data set contains 4,601 observations with 59 variables. The response variable is a binary indicator of whether an email is considered spam or not. There are 57 predictor variables that record the frequencies of some common words and characters and lengths of uninterrupted sequences of capital letters in emails. The following steps display information about the data set Sashelp.junkmail and create [Figure 1.57](#). The data set contains 4,601 observations.

```
title "Sashelp.junkmail --- Classifying Email as Junk Or Not";
proc contents data=sashelp.junkmail varnum;
  ods select position;
run;

title "The First Five Observations Out of 4,601";
proc print data=sashelp.junkmail(obs=5) noobs;
run;
```

**Figure 1.57** Sashelp.junkmail — Classifying Email as Junk Or Not  
**Sashelp.junkmail --- Classifying Email as Junk Or Not**

**The CONTENTS Procedure**

Variables in Creation Order				
#	Variable	Type	Len	Label
1	Test	Num	8	0 - Training, 1 - Test
2	Make	Num	8	
3	Address	Num	8	
4	All	Num	8	
5	_3D	Num	8	3D
6	Our	Num	8	
7	Over	Num	8	
8	Remove	Num	8	
9	Internet	Num	8	
10	Order	Num	8	
11	Mail	Num	8	
12	Receive	Num	8	
13	Will	Num	8	
14	People	Num	8	
15	Report	Num	8	
16	Addresses	Num	8	
17	Free	Num	8	
18	Business	Num	8	
19	Email	Num	8	
20	You	Num	8	
21	Credit	Num	8	
22	Your	Num	8	
23	Font	Num	8	
24	_000	Num	8	000
25	Money	Num	8	
26	HP	Num	8	
27	HPL	Num	8	
28	George	Num	8	
29	_650	Num	8	650
30	Lab	Num	8	
31	Labs	Num	8	
32	Telnet	Num	8	
33	_857	Num	8	857
34	Data	Num	8	
35	_415	Num	8	415
36	_85	Num	8	85
37	Technology	Num	8	
38	_1999	Num	8	1999
39	Parts	Num	8	
40	PM	Num	8	
41	Direct	Num	8	
42	CS	Num	8	
43	Meeting	Num	8	
44	Original	Num	8	

**Figure 1.57** *continued***Sashelp.junkmail --- Classifying Email as Junk Or Not****The CONTENTS Procedure**

Variables in Creation Order			
#	Variable	Type	Len Label
45	Project	Num	8
46	RE	Num	8
47	Edu	Num	8
48	Table	Num	8
49	Conference	Num	8
50	Semicolon	Num	8
51	Paren	Num	8
52	Bracket	Num	8
53	Exclamation	Num	8
54	Dollar	Num	8
55	Pound	Num	8
56	CapAvg	Num	8 Capital Run Length Average
57	CapLong	Num	8 Capital Run Length Longest
58	CapTotal	Num	8 Capital Run Length Total
59	Class	Num	8 0 - Not Junk, 1 - Junk

Figure 1.57 continued

The First Five Observations Out of 4,601

Test	Make	Address	All	_3D	Our	Over	Remove	Internet	Order	Mail	Receive	Will	People	Report	Addresses	Free
1	0.00	0.64	0.64	0	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.32
0	0.21	0.28	0.50	0	0.14	0.28	0.21	0.07	0.00	0.94	0.21	0.79	0.65	0.21	0.14	0.14
1	0.06	0.00	0.71	0	1.23	0.19	0.19	0.12	0.64	0.25	0.38	0.45	0.12	0.00	1.75	0.06
0	0.00	0.00	0.00	0	0.63	0.00	0.31	0.63	0.31	0.63	0.31	0.31	0.31	0.00	0.00	0.31
0	0.00	0.00	0.00	0	0.63	0.00	0.31	0.63	0.31	0.63	0.31	0.31	0.31	0.00	0.00	0.31

Business	Email	You	Credit	Your	Font	_000	Money	HP	HPL	George	_650	Lab	Labs	Telnet	_857	Data	_415	_85
0.00	1.29	1.93	0.00	0.96	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.07	0.28	3.47	0.00	1.59	0	0.43	0.43	0	0	0	0	0	0	0	0	0	0	0
0.06	1.03	1.36	0.32	0.51	0	1.16	0.06	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	3.18	0.00	0.31	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	3.18	0.00	0.31	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0

Technology	_1999	Parts	PM	Direct	CS	Meeting	Original	Project	RE	Edu	Table	Conference	Semicolon	Paren	Bracket
0	0.00	0	0	0.00	0	0	0.00	0	0.00	0.00	0	0	0.00	0.000	0
0	0.07	0	0	0.00	0	0	0.00	0	0.00	0.00	0	0	0.00	0.132	0
0	0.00	0	0	0.06	0	0	0.12	0	0.06	0.06	0	0	0.01	0.143	0
0	0.00	0	0	0.00	0	0	0.00	0	0.00	0.00	0	0	0.00	0.137	0
0	0.00	0	0	0.00	0	0	0.00	0	0.00	0.00	0	0	0.00	0.135	0

Exclamation	Dollar	Pound	CapAvg	CapLong	CapTotal	Class
0.778	0.000	0.000	3.756	61	278	1
0.372	0.180	0.048	5.114	101	1028	1
0.276	0.184	0.010	9.821	485	2259	1
0.137	0.000	0.000	3.537	40	191	1
0.135	0.000	0.000	3.537	40	191	1



## Sashelp.ko

The Sashelp.ko data set provides a DBCS translation tables. KO is for Korean. The following steps display information about the data set Sashelp.ko and create [Figure 1.58](#). The data set contains 2,561 observations.

```

title "Sashelp.ko";
proc contents data=sashelp.ko varnum;
    ods select position;
run;

title "The First Five Observations Out of 2,561";
proc print data=sashelp.ko(obs=5) noobs;
run;

```

**Figure 1.58** Sashelp.ko

### Sashelp.ko

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	unicode	Char	6
2	euc	Char	4
3	ibm	Char	4
4	pcibm	Char	4

#### The First Five Observations Out of 2,561

unicode	euc	ibm	pcibm
U+C90E	A1A0	4140	8140
U+3002	A1A3	4142	8142
U+00B7	A1A4	4143	8143
U+2025	A1A5	4144	8144
U+2026	A1A6	4145	8145

## Sashelp.lake — Sample 3D Data of Lake Depth

The Sashelp.lake data set provides a sample 3D data of lake depth. The following steps display information about the data set Sashelp.lake and create Figure 1.59. The data set contains 315 observations.

```

title "Sashelp.lake --- Sample 3D Data of Lake Depth";
proc contents data=sashelp.lake varnum;
    ods select position;
run;

title "The First Five Observations Out of 315";
proc print data=sashelp.lake(obs=5) noobs;
run;

```

**Figure 1.59** Sashelp.lake — Sample 3D Data of Lake Depth

### Sashelp.lake --- Sample 3D Data of Lake Depth

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	Width	Num	8
2	Length	Num	8
3	Depth	Num	8

#### The First Five Observations Out of 315

Width	Length	Depth
0	0.0	0.000000000
0	0.5	0.000000000
0	1.0	0.000000000
0	1.5	-.005977326
0	2.0	0.000000000

---

## Sashelp.leutest — Leukemia Data Set - Validation Data

The Sashelp.LeuTrain and Sashelp.LeuTest data sets provide microarray data (Golub et al. 1999; Zou and Hastie 2005). The Sashelp.LeuTrain data set consists of 7129 genes and 38 training samples, and the Sashelp.LeuTest data set consists of the same 7129 genes and 34 testing samples. Among the 38 training samples, 27 are type 1 leukemia (acute lymphoblastic leukemia, coded in the data as 1) and 11 are type 2 leukemia (acute myeloid leukemia, coded in the data as -1). There are 7130 variables, y and x1-x7129. These data are not displayed because of the number of variables.

---

## Sashelp.leustrain — Leukemia Data Set - Training Data

The Sashelp.LeuTrain and Sashelp.LeuTest data sets provide microarray data (Golub et al. 1999; Zou and Hastie 2005). The Sashelp.LeuTrain data set consists of 7129 genes and 38 training samples, and the Sashelp.LeuTest data set consists of the same 7129 genes and 34 testing samples. Among the 38 training samples, 27 are type 1 leukemia (acute lymphoblastic leukemia, coded in the data as 1) and 11 are type 2 leukemia (acute myeloid leukemia, coded in the data as -1). There are 7130 variables, y and x1-x7129. These data are not displayed because of the number of variables.

## Sashelp.ltheme

The following steps display information about the data set Sashelp.ltheme and create Figure 1.60. The data set contains 13 observations.

```

title "Sashelp.ltheme";
proc contents data=sashelp.ltheme varnum;
    ods select position;
run;

title "The First Five Observations Out of 13";
proc print data=sashelp.ltheme(obs=5) noobs;
run;

```

**Figure 1.60** Sashelp.ltheme

### Sashelp.ltheme

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	CFCC	Char	1
2	NAME	Char	21 LANDMARKS

#### The First Five Observations Out of 13

CFCC	NAME
V	Housing Unit
Z	Prison
Y	Hospital
a	Church
b	Educational

## Sashelp.macrs10

The Sashelp.macrs10 data set provides a year and rate variable. The following steps display information about the data set Sashelp.macrs10 and create [Figure 1.61](#). The data set contains 11 observations.

```
title "Sashelp.macrs10";
proc contents data=sashelp.macrs10 varnum;
  ods select position;
run;

title "The First Five Observations Out of 11";
proc print data=sashelp.macrs10 (obs=5) noobs;
run;
```

**Figure 1.61** Sashelp.macrs10

### Sashelp.macrs10

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	YEAR	Num	8
2	RATE	Num	8

#### The First Five Observations Out of 11

YEAR	RATE
1	10.00
2	18.00
3	14.40
4	11.52
5	9.22

## Sashelp.macrs15

The Sashelp.macrs15 data set provides a year and rate variable. The following steps display information about the data set Sashelp.macrs15 and create [Figure 1.62](#). The data set contains 16 observations.

```

title "Sashelp.macrs15";
proc contents data=sashelp.macrs15 varnum;
  ods select position;
run;

title "The First Five Observations Out of 16";
proc print data=sashelp.macrs15(obs=5) noobs;
run;

```

**Figure 1.62** Sashelp.macrs15

### Sashelp.macrs15

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	YEAR	Num	8
2	RATE	Num	8

#### The First Five Observations Out of 16

YEAR	RATE
1	5.00
2	9.50
3	8.55
4	7.70
5	6.93

## Sashelp.macrs20

The Sashelp.macrs20 data set provides a year and rate variable. The following steps display information about the data set Sashelp.macrs20 and create [Figure 1.63](#). The data set contains 21 observations.

```

title "Sashelp.macrs20";
proc contents data=sashelp.macrs20 varnum;
    ods select position;
run;

title "The First Five Observations Out of 21";
proc print data=sashelp.macrs20 (obs=5) noobs;
run;

```

**Figure 1.63** Sashelp.macrs20

### Sashelp.macrs20

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	YEAR	Num	8
2	RATE	Num	8

#### The First Five Observations Out of 21

YEAR	RATE
1	3.750
2	7.219
3	6.677
4	6.177
5	5.713

---

## Sashelp.macrs3

The Sashelp.macrs3 data set provides a year and rate variable. The following steps display information about the data set Sashelp.macrs3 and create [Figure 1.64](#). The data set contains 4 observations.

```
title "Sashelp.macrs3";
proc contents data=sashelp.macrs3 varnum;
  ods select position;
run;

title "The Full Data Set";
proc print data=sashelp.macrs3 noobs;
run;
```

**Figure 1.64** Sashelp.macrs3

### Sashelp.macrs3

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	YEAR	Num	8
2	RATE	Num	8

#### The Full Data Set

YEAR	RATE
1	33.33
2	44.45
3	14.81
4	7.41



## Sashelp.macrs5

The Sashelp.macrs5 data set provides a year and rate variable. The following steps display information about the data set Sashelp.macrs5 and create [Figure 1.65](#). The data set contains 6 observations.

```

title "Sashelp.macrs5";
proc contents data=sashelp.macrs5 varnum;
    ods select position;
run;

title "The First Five Observations Out of 6";
proc print data=sashelp.macrs5(obs=5) noobs;
run;

```

**Figure 1.65** Sashelp.macrs5

### Sashelp.macrs5

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	YEAR	Num	8
2	RATE	Num	8

#### The First Five Observations Out of 6

YEAR	RATE
1	20.00
2	32.00
3	19.20
4	11.52
5	11.52

---

## Sashelp.macrs7

The Sashelp.macrs7 data set provides a year and rate variable. The following steps display information about the data set Sashelp.macrs7 and create Figure 1.66. The data set contains 8 observations.

```
title "Sashelp.macrs7";
proc contents data=sashelp.macrs7 varnum;
  ods select position;
run;

title "The First Five Observations Out of 8";
proc print data=sashelp.macrs7(obs=5) noobs;
run;
```

**Figure 1.66** Sashelp.macrs7

### Sashelp.macrs7

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	YEAR	Num	8
2	RATE	Num	8

#### The First Five Observations Out of 8

YEAR	RATE
1	14.29
2	24.49
3	17.49
4	12.49
5	8.93

## Sashelp.margarin — Margarine Purchase Data

The Sashelp.Margarin data set is a scanner panel data set that lists purchases of margarine (Rossi, Allenby, and McCulloch 2005). There are 313 households and a total of 3,405 purchases. The variable HouseID represents the household ID; each household made at least five purchases, which are defined by the choice set variable Set. The variable Choice represents the choice that households made among the six margarine brands for each purchase or choice set. The variable Brand has the value 'PPK' for Parkay stick, 'PBB' for Blue Bonnet stick, 'PFL' for Fleischmann's stick, 'PHse' for the house brand stick, 'PGen' for the generic stick, and 'PSS' for Shedd's Spread tub. The variable LogPrice is the logarithm of the product price. The variables LogInc and FamSize provide information about household income and family size, respectively. The following steps display information about the data set Sashelp.margarin and create Figure 1.67. The data set contains 20,430 observations.

```

title "Sashelp.margarin --- Margarine Purchase Data";
proc contents data=sashelp.margarin varnum;
    ods select position;
run;

title "The First Six Observations Out of 20,430";
proc print data=sashelp.margarin(obs=6) noobs;
run;

```

**Figure 1.67** Sashelp.margarin — Margarine Purchase Data

### Sashelp.margarin --- Margarine Purchase Data

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	HouseID	Num	8
2	Set	Num	8
3	Choice	Num	8
4	Brand	Char	8
5	LogPrice	Num	8
6	LogInc	Num	8
7	FamSize	Num	8

#### The First Six Observations Out of 20,430

HouseID	Set	Choice	Brand	LogPrice	LogInc	FamSize
2100016	1	1	PPk	-0.41552	3.48124	2
2100016	1	0	PBB	-0.40048	3.48124	2
2100016	1	0	PFI	0.08618	3.48124	2
2100016	1	0	PHse	-0.56212	3.48124	2
2100016	1	0	PGen	-1.02165	3.48124	2
2100016	1	0	PSS	-0.16252	3.48124	2

## Sashelp.mdv — Sales Data and Forecast

The Sashelp.mdv data set provides sales data and forecast. The following steps display information about the data set Sashelp.mdv and create Figure 1.68. The data set contains 128 observations.

```

title "Sashelp.mdv --- Sales Data and Forecast";
proc contents data=sashelp.mdv varnum;
    ods select position;
run;

title "The First Five Observations Out of 128";
proc print data=sashelp.mdv(obs=5) noobs;
run;

```

**Figure 1.68** Sashelp.mdv — Sales Data and Forecast

### Sashelp.mdv --- Sales Data and Forecast

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat
1	CODE	Char	10		
2	ORIGCITY	Char	8		
3	COUNTRY	Char	14		
4	TYPE	Char	14		
5	CITY	Char	14		
6	COMPANY	Char	50	\$30.	
7	SHIPDATE	Num	8	DATE7.	DATE.
8	SALES94	Num	8	COMMA10.2	
9	MONTH	Num	8		
10	YEAR	Num	8		
11	SALES93	Num	8	COMMA10.2	
12	SALES95	Num	8	COMMA10.2	
13	_4CAST96	Num	8	COMMA10.2	
14	DAY	Num	8		

#### The First Five Observations Out of 128

CODE	ORIGCITY	COUNTRY	TYPE	CITY	COMPANY	SHIPDATE	SALES94	MONTH	YEAR	SALES93	SALES95	_4CAST96	DAY
NEXT DAY	LONDON	AUSTRALIA	MD11	ACTON	OUTWAY COMPANY	20APR95	523.24	4	1995	288.24	1,500.24	1,660.57	20
NEXT DAY	LONDON	AUSTRALIA	DC10	ACTON	AUSTRALIAN WAY HOSPITAL	22APR95	523.24	4	1995	499.24	804.24	874.62	22
SECOND DAY	SAN FRAN	AUSTRALIA	A300	ACTON	NATIONAL GROVE UNIVERSITY	03DEC95	523.24	12	1995	198.24	1,308.24	1,340.82	3
THIRD DAY	NEW YORK	AUSTRALIA	MD11	MELBOURNE	STATE INCOME OFFICE	09SEP95	1,170.00	9	1995	529.00	1,596.00	1,876.61	9
SECOND DAY	SYDNEY	AUSTRALIA	DC10	MELBOURNE	MELROSE TECH	22NOV95	251.29	11	1995	628.71	1,178.29	1,320.58	22

## Sashelp.mileages — Flying Mileages Between 10 US Cities

The Sashelp.Mileages data set contains a table of flying mileages between 10 US cities. This data set is frequently used to illustrate cluster analysis and multidimensional scaling. The following steps display information about the data set Sashelp.mileages and create [Figure 1.69](#). The data set contains 10 observations.

```

title "Sashelp.mileages --- Flying Mileages Between 10 US Cities";
proc contents data=sashelp.mileages varnum;
    ods select position;
run;

title "The Full Data Set";
proc print data=sashelp.mileages noobs;
run;

```

**Figure 1.69** Sashelp.mileages — Flying Mileages Between 10 US Cities

### Sashelp.mileages --- Flying Mileages Between 10 US Cities

#### The CONTENTS Procedure

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

Atlanta	Chicago	Denver	Houston	LosAngeles	Miami	NewYork	SanFrancisco	Seattle	WashingtonDC	City
0	.	.	.	.	.	.	.	.	.	. Atlanta
587	0	.	.	.	.	.	.	.	.	. Chicago
1212	920	0	.	.	.	.	.	.	.	. Denver
701	940	879	0	.	.	.	.	.	.	. Houston
1936	1745	831	1374	0	.	.	.	.	.	. Los Angeles
604	1188	1726	968	2339	0	.	.	.	.	. Miami
748	713	1631	1420	2451	1092	0	.	.	.	. New York
2139	1858	949	1645	347	2594	2571	0	.	.	. San Francisco
2182	1737	1021	1891	959	2734	2408	678	0	.	. Seattle
543	597	1494	1220	2300	923	205	2442	2329	0	Washington D.C.

## Sashelp.mm

The following steps display information about the data set Sashelp.mm and create Figure 1.70. The data set contains 1,194 observations.

```

title "Sashelp.mm";
proc contents data=sashelp.mm varnum;
    ods select position;
run;

title "The First Five Observations Out of 1,194";
proc print data=sashelp.mm(obs=5) noobs;
run;

```

**Figure 1.70** Sashelp.mm

### Sashelp.mm

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	locale	Char	5
2	key	Char	60
3	lineno	Num	3
4	text	Char	1200

#### The First Five Observations Out of 1,194

locale	key	lineno	text
en	MM_409_CONFLICT_ERROR	1	%1zA definition already exists with the specified name.
en	MM_ASTORE_TOO_LARGE_ERROR	1	%1zThe analytic store file that you are trying to import exceeds the maximum recommended file size. Files larger than 5 MB could cause issues on your back-end server. If you think that this file is safe to import into the SAS Model Manager common model repository, you can resubmit the macro code with the parameter "fileSizeOverride=Y".
en	MM_COMMON_COLLECTIONDATE_VLABEL	1	Collection Date
en	MM_COMMON_JOB_VLABEL	1	Job
en	MM_COMMON_MDLFLAG_VLABEL	1	Champion Model

---

## Sashelp.mon1001 — M-Competition 1001 Series, Monthly

The Sashelp.mon1001 data set provides *m*-competition 1001 series, monthly. These data are not displayed because of the number of variables.

---

## Sashelp.mon111 — M-Competition 111 Series, Monthly

The Sashelp.mon111 data set provides *m*-competition 111 series, monthly. The following steps display information about the data set Sashelp.mon111 and create [Figure 1.71](#). The data set contains 124 observations.

```
title "Sashelp.mon111 --- M-Competition 111 Series, Monthly";
proc contents data=sashelp.mon111 varnum;
    ods select position;
run;

title "The First Five Observations Out of 124";
proc print data=sashelp.mon111(obs=5) noobs;
run;
```

**Figure 1.71** Sashelp.mon111 — M-Competition 111 Series, Monthly  
**Sashelp.mon111 --- M-Competition 111 Series, Monthly**

**The CONTENTS Procedure**

Variables in Creation Order			
#	Variable	Type	Len
1	T	Num	4
2	S391	Num	5
3	S409	Num	5
4	S418	Num	5
5	S427	Num	5
6	S436	Num	5
7	S445	Num	5
8	S454	Num	5
9	S463	Num	5
10	S472	Num	5
11	S481	Num	5
12	S490	Num	5
13	S499	Num	5
14	S508	Num	5
15	S526	Num	5
16	S544	Num	5
17	S562	Num	5
18	S571	Num	5
19	S580	Num	5
20	S589	Num	5
21	S598	Num	5
22	S607	Num	5
23	S616	Num	5
24	S625	Num	5
25	S634	Num	5
26	S643	Num	5
27	S652	Num	5
28	S661	Num	5
29	S670	Num	5
30	S688	Num	5
31	S697	Num	5
32	S706	Num	5
33	S715	Num	5
34	S733	Num	5
35	S742	Num	5
36	S751	Num	5
37	S760	Num	5
38	S769	Num	5
39	S787	Num	5
40	S796	Num	5
41	S841	Num	5
42	S850	Num	5
43	S859	Num	5



Figure 1.71 *continued*

## Sashelp.mon111 --- M-Competition 111 Series, Monthly

## The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
44	S868	Num	5
45	S877	Num	5
46	S904	Num	5
47	S913	Num	5
48	S931	Num	5
49	S940	Num	5
50	S958	Num	5
51	S985	Num	5
52	S994	Num	5

## The First Five Observations Out of 124

T	S391	S409	S418	S427	S436	S445	S454	S463	S472	S481	S490	S499	S508	S526	S544	S562
1	117497	443	403	13224.00	2107	90000	2783.70	12344.00	2496.26	24	292.900	780	13858	1759.81	151.511	7.50000
2	153276	469	372	14404.20	2097	87000	3746.94	13970.70	2485.05	77	297.900	815	14919	1912.56	148.884	6.40000
3	241443	251	381	17824.00	2135	111000	6404.38	13587.90	2639.59	54	351.400	929	15451	2171.54	148.192	7.00000
4	218709	286	465	20295.00	2165	108000	5074.96	13109.50	2649.48	43	286.500	851	14760	2191.08	144.459	6.70000
5	202896	342	402	19384.00	2205	77000	4526.14	12152.59	2313.73	14	293.500	921	16263	1804.54	146.740	5.50000

S571	S580	S589	S598	S607	S616	S625	S634	S643	S652	S661	S670	S688	S697	S706	S715	S733
23746.89	12480.70	3986	140	90	1081.76	2478.62	5052	3718	0.86000	2.65000	0.74000	603	984	10.3600	9.6000	38.200
23746.89	12285.00	4175	134	102	1080.11	2404.63	5601	3476	2.09000	2.35000	1.41000	577	980	10.2700	9.3000	74.400
27454.09	12325.00	4175	144	99	1353.93	2413.13	7054	3557	2.06000	2.51000	1.49000	575	987	10.8200	15.0000	102.600
23829.30	12269.40	4500	140	108	1326.56	2480.82	5293	5128	2.05000	2.59000	1.45000	565	1000	12.1200	15.1000	99.900
24712.59	12327.20	4625	139	109	1406.02	2826.67	5216	5222	2.08000	2.44000	1.55000	406	1005	11.7800	15.3000	102.000

S742	S751	S760	S769	S787	S796	S841	S850	S859	S868	S877	S904	S913	S931	S940	S958	S985	S994
3362	12193	13871	613.840	60	0.28000	3.80000	170	2.87000	128	67	96	2.62000	14959	27.0600	5447	159	23104
3572	11439	13255	550.320	63	0.28000	2.91000	102	3.07000	134	73	97	3.08000	18418	12.8100	5412	194	30479
3718	12410	15013	636.880	65	0.33000	2.96000	91	2.97000	133	74	99	3.06000	19865	13.3100	5215	23	32670
4174	13556	12413	812.320	66	0.50000	2.71000	109	3.22000	141	79	100	3.12000	40349	14.2000	4697	182	38568
4482	11063	12752	780.720	66	0.45000	4.13000	103	2.88000	134	84	102	3.54000	16985	16.1800	4344	160	57017

## Sashelp.mwelect — Midwest Electrical Supply Monthly Sales By Productgroup

The Sashelp.mwelect data set provides midwest electrical supply monthly sales by product group. The following steps display information about the data set Sashelp.mwelect and create Figure 1.72. The data set contains 11,296 observations.

```

title "Sashelp.mwelect --- Midwest Electrical Supply Monthly Sales By Productgroup";
proc contents data=sashelp.mwelect varnum;
    ods select position;
run;

title "The First Five Observations Out of 11,296";
proc print data=sashelp.mwelect (obs=5) noobs;
run;

```

**Figure 1.72** Sashelp.mwelect — Midwest Electrical Supply Monthly Sales By Productgroup  
Sashelp.mwelect --- Midwest Electrical Supply Monthly Sales By Productgroup

### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	Date	Num	8	MONYY7.	Month
2	ProductGroup	Char	14		Product Group
3	SalesRegion	Char	7		Sales Region
4	SalesOffice	Char	11		Sales Office
5	SalesInUsd	Num	8	COMMA10.2	Sales in USD
6	SalesCost	Num	8	COMMA9.2	Cost of Goods Sold
7	QuantityInvoiced	Num	8	7.	Units Sold
8	SKU	Char	18	\$CHAR18.	Stock-keeping unit

### The First Five Observations Out of 11,296

Date	ProductGroup	SalesRegion	SalesOffice	SalesInUsd	SalesCost	QuantityInvoiced	SKU
JAN2001	Electrical	East	Buffalo	975.18	1,015.81	432	CPR 00108N 0400RI
FEB2001	Electrical	East	Buffalo	324.20	341.20	432	CPR 00108N 0400RI
MAR2001	Electrical	East	Buffalo	1,948.74	2,047.14	.	CPR 00108N 0400RI
APR2001	Electrical	East	Buffalo	.	.	.	CPR 00108N 0400RI
MAY2001	Electrical	East	Buffalo	342.12	348.40	432	CPR 00108N 0400RI

## Sashelp.nvst1

The Sashelp.nvst1 data set provides investor transaction data. The following steps display information about the data set Sashelp.nvst1 and create [Figure 1.73](#). The data set contains 6 observations.

```

title "Sashelp.nvst1";
proc contents data=sashelp.nvst1 varnum;
  ods select position;
run;

title "The First Five Observations Out of 6";
proc print data=sashelp.nvst1(obs=5) noobs;
run;

```

**Figure 1.73** Sashelp.nvst1

### Sashelp.nvst1

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 6

DATE	AMOUNT
01JAN1997	-30000
01JAN1998	7500
01JAN1999	7500
01JAN2000	7500
01JAN2001	7500

## Sashelp.nvst2

The Sashelp.nvst2 data set provides investor transaction data. The following steps display information about the data set Sashelp.nvst2 and create [Figure 1.74](#). The data set contains 6 observations.

```
title "Sashelp.nvst2";
proc contents data=sashelp.nvst2 varnum;
  ods select position;
run;

title "The First Five Observations Out of 6";
proc print data=sashelp.nvst2(obs=5) noobs;
run;
```

**Figure 1.74** Sashelp.nvst2

### Sashelp.nvst2

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 6

DATE	AMOUNT
01JAN1997	-60000
01JAN1998	13755
01JAN1999	13755
01JAN2000	13755
01JAN2001	13755

## Sashelp.nvst3

The Sashelp.nvst3 data set provides investor transaction data. The following steps display information about the data set Sashelp.nvst3 and create [Figure 1.75](#). The data set contains 6 observations.

```

title "Sashelp.nvst3";
proc contents data=sashelp.nvst3 varnum;
    ods select position;
run;

title "The First Five Observations Out of 6";
proc print data=sashelp.nvst3(obs=5) noobs;
run;

```

**Figure 1.75** Sashelp.nvst3

### Sashelp.nvst3

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 6

DATE	AMOUNT
01JAN1997	-20000
01JAN1998	5000
01JAN1999	5000
01JAN2000	5000
01JAN2001	5000

## Sashelp.nvst4

The Sashelp.nvst4 data set provides investor transaction data. The following steps display information about the data set Sashelp.nvst4 and create [Figure 1.76](#). The data set contains 6 observations.

```

title "Sashelp.nvst4";
proc contents data=sashelp.nvst4 varnum;
  ods select position;
run;

title "The First Five Observations Out of 6";
proc print data=sashelp.nvst4 (obs=5) noobs;
run;

```

**Figure 1.76** Sashelp.nvst4

### Sashelp.nvst4

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 6

DATE	AMOUNT
01JAN1997	-40000
01JAN1998	10000
01JAN1999	10000
01JAN2000	10000
01JAN2001	10000

## Sashelp.nvst5

The Sashelp.nvst5 data set provides investor transaction data. The following steps display information about the data set Sashelp.nvst5 and create [Figure 1.77](#). The data set contains 6 observations.

```

title "Sashelp.nvst5";
proc contents data=sashelp.nvst5 varnum;
  ods select position;
run;

title "The First Five Observations Out of 6";
proc print data=sashelp.nvst5(obs=5) noobs;
run;

```

**Figure 1.77** Sashelp.nvst5

### Sashelp.nvst5

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 6

DATE	AMOUNT
01JAN1997	-30000
01JAN1998	7500
01JAN1999	7500
01JAN2000	7500
01JAN2001	7500

## Sashelp.orsales — Orion Star Sports & Outdoors Sales 1999 - 2002

The Sashelp.orsales data set provides Orion star sports and outdoors sales 1999–2002. The following steps display information about the data set Sashelp.orsales and create Figure 1.78. The data set contains 912 observations.

```

title "Sashelp.orsales --- Orion Star Sports & Outdoors Sales 1999 - 2002";
proc contents data=sashelp.orsales varnum;
  ods select position;
run;

title "The First Five Observations Out of 912";
proc print data=sashelp.orsales(obs=5) noobs;
run;

title "The Product_Line Variable";
proc freq data=sashelp.orsales;
  tables Product_Line;
run;

```

**Figure 1.78** Sashelp.orsales — Orion Star Sports & Outdoors Sales 1999 - 2002  
**Sashelp.orsales --- Orion Star Sports & Outdoors Sales 1999 - 2002**

### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	Year	Num	8 4.	Year
2	Quarter	Char	6	Quarter
3	Product_Line	Char	20	Product Line
4	Product_Category	Char	25	Product Category
5	Product_Group	Char	25	Product Group
6	Quantity	Num	8 6.	Number of Items
7	Profit	Num	8 12.2	Profit in USD
8	Total_Retail_Price	Num	8 12.2	Total Retail Price in USD

### The First Five Observations Out of 912

Year	Quarter	Product_Line	Product_Category	Product_Group	Quantity	Profit	Total_Retail_Price
1999	1999Q1	Children	Children Sports	A-Team, Kids	286	4980.15	8990.90
1999	1999Q1	Children	Children Sports	Bathing Suits, Kids	98	1479.95	2560.40
1999	1999Q1	Children	Children Sports	Eclipse, Kid's Clothes	588	9348.95	18768.80
1999	1999Q1	Children	Children Sports	Eclipse, Kid's Shoes	334	7136.80	14337.20
1999	1999Q1	Children	Children Sports	Lucky Guy, Kids	303	7163.00	12996.20



**Figure 1.78** *continued***The Product\_Line Variable****The FREQ Procedure**

Product_Line	Product Line		Cumulative	Cumulative
	Frequency	Percent	Frequency	Percent
Children	176	19.30	176	19.30
Clothes & Shoes	288	31.58	464	50.88
Outdoors	112	12.28	576	63.16
Sports	336	36.84	912	100.00

## Sashelp.plfips — FIPS Place Codes from USGS Geographic Names Information System (GNIS)

The Sashelp.plfips data set provides FIPS place codes from USGS geographic names information system (GNIS). The following steps display information about the data set Sashelp.plfips and create Figure 1.79. The data set contains 173,283 observations.

```

title "Sashelp.plfips --- FIPS Place Codes from USGS Geographic Names Information"
      " System (GNIS)";
proc contents data=sashelp.plfips varnum;
  ods select position;
run;

title "The First Five Observations Out of 173,283";
proc print data=sashelp.plfips(obs=5) noobs;
run;

title "The FEATURE_CLASS Variable";
proc freq data=sashelp.plfips;
  tables FEATURE_CLASS;
run;

```

**Figure 1.79** Sashelp.plfips — FIPS Place Codes from USGS Geographic Names Information System (GNIS)

### Sashelp.plfips --- FIPS Place Codes from USGS Geographic Names Information System (GNIS)

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	FEATURE_ID	Char	9	\$9.	\$9. USGS GNIS Unique Identifier
2	FEATURE_CLASS	Char	15	\$15.	\$15. Description (USGS GNIS Feature Class)
3	CENSUS_CLASS_CODE	Char	2	\$2.	\$2. FIPS Place Class Code (USGS GNIS Census Class Code)
4	NAME	Char	52	\$CHAR52.	Place name (USGS GNIS Feature Name)
5	NAME2	Char	52	\$CHAR52.	Place name (Normalized Feature Name)
6	STATE	Char	2	\$CHAR2.	
7	PLACE	Num	8	Z5.	FIPS Place Code (USGS GNIS Census Code)

#### The First Five Observations Out of 173,283

FEATURE_ID	FEATURE_CLASS	CENSUS_CLASS_CODE	NAME	NAME2	STATE	PLACE
1418109	Populated Place	P1	ADAK	ADAK	AK	00065
1397926	Populated Place	U6	AFOGNAK	AFOGNAK	AK	00425
1397967	Populated Place	U6	AGUIKCHUK	AGUIKCHUK	AK	00540
2419295	Civil	E7	AHTNA ALASKA NATIVE REGIONAL CORPORATION	AHTNAALASKANATIVEREGIONALCORPORATION	AK	00590
1398007	Populated Place	P1	AKHIOK	AKHIOK	AK	00650

**Figure 1.79** *continued*

**The FEATURE\_CLASS Variable**

**The FREQ Procedure**

Description (USGS GNIS Feature Class)				
FEATURE_CLASS	Frequency	Percent	Cumulative Frequency	Cumulative Percent
<b>Census</b>	9661	5.58	9661	5.58
<b>Civil</b>	40724	23.50	50385	29.08
<b>Locale</b>	974	0.56	51359	29.64
<b>Military</b>	32	0.02	51391	29.66
<b>Park</b>	7	0.00	51398	29.66
<b>Populated Place</b>	121872	70.33	173270	99.99
<b>Post Office</b>	13	0.01	173283	100.00

## Sashelp.port\_multi

The Sashelp.Port\_multi data set contains common Portuguese phrases. The following steps display information about the data set Sashelp.port\_multi and create [Figure 1.80](#). The data set contains 800 observations.

```
title "Sashelp.port_multi";
proc contents data=sashelp.port_multi varnum;
    ods select position;
run;

title "The First Five Observations Out of 800";
proc print data=sashelp.port_multi(obs=5) noobs;
run;
```

**Figure 1.80** Sashelp.port\_multi

### Sashelp.port\_multi

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	Role	Char	12		Role
2	Term	Char	256	\$256.	\$256. Term
3	numdocs	Num	8		# Documents

#### The First Five Observations Out of 800

Role	Term	numdocs
Prep	a despeito da	3
Prep	a despeito das	1
Prep	a despeito de	2
Prep	a despeito do	2
Prep	a despeito dos	2

## Sashelp.prdsal2 — Furniture Sales Data

The Sashelp.prdsal2 data set provides furniture sales data. The following steps display information about the data set Sashelp.prdsal2 and create Figure 1.81. The data set contains 23,040 observations.

```

title "Sashelp.prdsal2 --- Furniture Sales Data";
proc contents data=sashelp.prdsal2 varnum;
    ods select position;
run;

title "The First Five Observations Out of 23,040";
proc print data=sashelp.prdsal2(obs=5) noobs;
run;

title "The PRODTYPE Variable";
proc freq data=sashelp.prdsal2;
    tables PRODTYPE;
run;

```

**Figure 1.81** Sashelp.prdsal2 — Furniture Sales Data  
**Sashelp.prdsal2 --- Furniture Sales Data**

### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	COUNTRY	Char	10	\$CHAR10.	Country
2	STATE	Char	22	\$CHAR22.	State/Province
3	COUNTY	Char	20	\$CHAR20.	County
4	ACTUAL	Num	8	DOLLAR12.2	Actual Sales
5	PREDICT	Num	8	DOLLAR12.2	Predicted Sales
6	PRODTYPE	Char	10	\$CHAR10.	Product Type
7	PRODUCT	Char	10	\$CHAR10.	Product
8	YEAR	Num	8	4.	Year
9	QUARTER	Num	8	8.	Quarter
10	MONTH	Num	8	MONNAME3.	Month
11	MONYR	Num	8	MONYY.	MONYY. Month/Year

### The First Five Observations Out of 23,040

COUNTRY	STATE	COUNTY	ACTUAL	PREDICT	PRODTYPE	PRODUCT	YEAR	QUARTER	MONTH	MONYR
U.S.A.	California		\$987.36	\$692.24	FURNITURE	SOFA	1995	1	Jan	JAN95
U.S.A.	California		\$1,782.96	\$568.48	FURNITURE	SOFA	1995	1	Feb	FEB95
U.S.A.	California		\$32.64	\$16.32	FURNITURE	SOFA	1995	1	Mar	MAR95
U.S.A.	California		\$1,825.12	\$756.16	FURNITURE	SOFA	1995	2	Apr	APR95
U.S.A.	California		\$750.72	\$723.52	FURNITURE	SOFA	1995	2	May	MAY95

**Figure 1.81** *continued*  
**The PRODTYPE Variable**

**The FREQ Procedure**

---

Product Type				
PRODTYPE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
FURNITURE	11520	50.00	11520	50.00
OFFICE	11520	50.00	23040	100.00

---

## Sashelp.prdsal3 — Furniture Sales Data

The Sashelp.prdsal3 data set provides furniture sales data. The following steps display information about the data set Sashelp.prdsal3 and create Figure 1.82. The data set contains 11,520 observations.

```

title "Sashelp.prdsal3 --- Furniture Sales Data";
proc contents data=sashelp.prdsal3 varnum;
    ods select position;
run;

title "The First Five Observations Out of 11,520";
proc print data=sashelp.prdsal3(obs=5) noobs;
run;

title "The PRODTYPE Variable";
proc freq data=sashelp.prdsal3;
    tables PRODTYPE;
run;

```

**Figure 1.82** Sashelp.prdsal3 — Furniture Sales Data  
**Sashelp.prdsal3 --- Furniture Sales Data**

### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	COUNTRY	Char	10	\$CHAR10.	Country
2	STATE	Char	22	\$CHAR22.	State/Province
3	COUNTY	Char	20	\$CHAR20.	County
4	ACTUAL	Num	8	DOLLAR12.2	Actual Sales
5	PREDICT	Num	8	DOLLAR12.2	Predicted Sales
6	PRODTYPE	Char	10	\$CHAR10.	Product Type
7	PRODUCT	Char	10	\$CHAR10.	Product
8	YEAR	Num	8	4.	Year
9	QUARTER	Num	8	8.	Quarter
10	MONTH	Num	8	MONNAME3.	Month
11	DATE	Num	8	MONYY.	MONYY. Date

### The First Five Observations Out of 11,520

COUNTRY	STATE	COUNTY	ACTUAL	PREDICT	PRODTYPE	PRODUCT	YEAR	QUARTER	MONTH	DATE
U.S.A.	California		\$726.00	\$509.00	FURNITURE	SOFA	1997	1	Jan	JAN97
U.S.A.	California		\$1,311.00	\$418.00	FURNITURE	SOFA	1997	1	Feb	FEB97
U.S.A.	California		\$24.00	\$12.00	FURNITURE	SOFA	1997	1	Mar	MAR97
U.S.A.	California		\$1,342.00	\$556.00	FURNITURE	SOFA	1997	2	Apr	APR97
U.S.A.	California		\$552.00	\$532.00	FURNITURE	SOFA	1997	2	May	MAY97

**Figure 1.82** *continued*  
**The PRODTYPE Variable**  
**The FREQ Procedure**

---

	Product Type			
PRODTYPE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
FURNITURE	5760	50.00	5760	50.00
OFFICE	5760	50.00	11520	100.00

---



## Sashelp.prdsale — Furniture Sales Data

The Sashelp.prdsale data set provides furniture sales data. The following steps display information about the data set Sashelp.prdsale and create Figure 1.83. The data set contains 1,440 observations.

```

title "Sashelp.prdsale --- Furniture Sales Data";
proc contents data=sashelp.prdsale varnum;
  ods select position;
run;

title "The First Five Observations Out of 1,440";
proc print data=sashelp.prdsale(obs=5) noobs;
run;

title "The DIVISION and PRODTYPE Variables";
proc freq data=sashelp.prdsale;
  tables DIVISION;
  tables PRODTYPE;
run;

```

**Figure 1.83** Sashelp.prdsale — Furniture Sales Data

### Sashelp.prdsale --- Furniture Sales Data

#### The CONTENTS Procedure

Variables in Creation Order				
# Variable	Type	Len	Format	Label
1 ACTUAL	Num	8	DOLLAR12.2	Actual Sales
2 PREDICT	Num	8	DOLLAR12.2	Predicted Sales
3 COUNTRY	Char	10	\$CHAR10.	Country
4 REGION	Char	10	\$CHAR10.	Region
5 DIVISION	Char	10	\$CHAR10.	Division
6 PRODTYPE	Char	10	\$CHAR10.	Product type
7 PRODUCT	Char	10	\$CHAR10.	Product
8 QUARTER	Num	8	8.	Quarter
9 YEAR	Num	8	4.	Year
10 MONTH	Num	8	MONNAME3.	Month

#### The First Five Observations Out of 1,440

ACTUAL	PREDICT	COUNTRY	REGION	DIVISION	PRODTYPE	PRODUCT	QUARTER	YEAR	MONTH
\$925.00	\$850.00	CANADA	EAST	EDUCATION FURNITURE	SOFA		1	1993	Jan
\$999.00	\$297.00	CANADA	EAST	EDUCATION FURNITURE	SOFA		1	1993	Feb
\$608.00	\$846.00	CANADA	EAST	EDUCATION FURNITURE	SOFA		1	1993	Mar
\$642.00	\$533.00	CANADA	EAST	EDUCATION FURNITURE	SOFA		2	1993	Apr
\$656.00	\$646.00	CANADA	EAST	EDUCATION FURNITURE	SOFA		2	1993	May

**Figure 1.83** *continued***The DIVISION and PRODTYPE Variables****The FREQ Procedure**

---

<b>Division</b>				
<b>DIVISION</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
<b>CONSUMER</b>	720	50.00	720	50.00
<b>EDUCATION</b>	720	50.00	1440	100.00

---

<b>Product type</b>				
<b>PRODTYPE</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
<b>FURNITURE</b>	576	40.00	576	40.00
<b>OFFICE</b>	864	60.00	1440	100.00

---

---

## Sashelp.pricedata — Simulated Monthly Sales Data With Hierarchy of Region, Line, Product

The Sashelp.pricedata data set provides simulated monthly sales data with hierarchy of region, line, product. The following steps display information about the data set Sashelp.pricedata and create [Figure 1.84](#). The data set contains 1,020 observations.

```
title "Sashelp.pricedata --- Simulated Monthly Sales Data With Hierarchy of Region,"
      " Line, Product";
proc contents data=sashelp.pricedata varnum;
  ods select position;
run;

title "The First Five Observations Out of 1,020";
proc print data=sashelp.pricedata(obs=5) noobs;
run;

title "The regionName and productLine Variables";
proc freq data=sashelp.pricedata;
  tables regionName;
  tables productLine;
run;
```

**Figure 1.84** Sashelp.pricedata — Simulated Monthly Sales Data With Hierarchy of Region, Line, Product  
**Sashelp.pricedata --- Simulated Monthly Sales Data With Hierarchy of Region, Line, Product**

**The CONTENTS Procedure**

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	date	Num	8	MONYY. Order Date
2	sale	Num	8	Unit Sale
3	price	Num	8	Unit Price
4	discount	Num	8	Price Discount
5	cost	Num	8	Unit Cost
6	price1	Num	8	Product 1 Unit Price
7	price2	Num	8	Product 2 Unit Price
8	price3	Num	8	Product 3 Unit Price
9	price4	Num	8	Product 4 Unit Price
10	price5	Num	8	Product 5 Unit Price
11	price6	Num	8	Product 6 Unit Price
12	price7	Num	8	Product 7 Unit Price
13	price8	Num	8	Product 8 Unit Price
14	price9	Num	8	Product 9 Unit Price
15	price10	Num	8	Product 10 Unit Price
16	price11	Num	8	Product 11 Unit Price
17	price12	Num	8	Product 12 Unit Price
18	price13	Num	8	Product 13 Unit Price
19	price14	Num	8	Product 14 Unit Price
20	price15	Num	8	Product 15 Unit Price
21	price16	Num	8	Product 16 Unit Price
22	price17	Num	8	Product 17 Unit Price
23	regionName	Char	7	Sales Region
24	productLine	Char	5	Name of product line
25	productName	Char	9	Product Name
26	region	Num	8	6. Region ID
27	line	Num	8	6. Product Line ID
28	product	Num	8	6. Product ID

**Figure 1.84** *continued*

**The First Five Observations Out of 1,020**

date	sale	price	discount	cost	price1	price2	price3	price4	price5	price6	price7	price8	price9	price10	price11	price12
JAN98	355	52.300	0.00	23.9	52.300	115	33.40	67.9	36	38.88	42	59	65.2	56.900	171.40	147
FEB98	398	52.300	0.00	23.9	52.300	115	33.40	67.9	36	48.60	42	59	65.2	56.900	171.40	147
MAR98	387	52.300	0.00	23.9	52.300	115	33.40	67.9	36	48.60	42	59	65.2	48.365	154.26	147
APR98	380	52.300	0.00	23.9	52.300	115	28.39	67.9	36	48.60	42	59	65.2	56.900	171.40	147
MAY98	555	44.455	0.15	23.9	44.455	115	33.40	67.9	36	48.60	42	59	65.2	56.900	171.40	147

price13	price14	price15	price16	price17	regionName	productLine	productName	region	line	product
122	53.00	120.2	70.55	80.5	Region1	Line1	Product1	1	1	1
122	53.00	120.2	83.00	80.5	Region1	Line1	Product1	1	1	1
122	53.00	120.2	83.00	80.5	Region1	Line1	Product1	1	1	1
122	45.05	120.2	83.00	80.5	Region1	Line1	Product1	1	1	1
122	53.00	120.2	83.00	80.5	Region1	Line1	Product1	1	1	1

**The regionName and productLine Variables**

**The FREQ Procedure**

Sales Region				
regionName	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Region1	180	17.65	180	17.65
Region2	480	47.06	660	64.71
Region3	360	35.29	1020	100.00

Name of product line				
productLine	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Line1	180	17.65	180	17.65
Line2	240	23.53	420	41.18
Line3	240	23.53	660	64.71
Line4	240	23.53	900	88.24
Line5	120	11.76	1020	100.00

## Sashelp.proj4def — Proj.4 Definitions for Epsg and Esri Codes

The Sashelp.proj4def data set provides EPSG and ESRI map projection grids. The following steps display information about the data set Sashelp.proj4def and create Figure 1.85. The data set contains 7,124 observations.

```

title "Sashelp.proj4def --- Proj.4 Definitions for Epsg and Esri Codes";
proc contents data=sashelp.proj4def varnum;
    ods select position;
run;

title "The First Five Observations Out of 7,124";
proc print data=sashelp.proj4def(obs=5) noobs;
run;

```

**Figure 1.85** Sashelp.proj4def — Proj.4 Definitions for Epsg and Esri Codes

**Sashelp.proj4def --- Proj.4 Definitions for Epsg and Esri Codes**

### The CONTENTS Procedure

Variables in Creation Order						
#	Variable	Type	Len	Format	Informat	Label
1	NAME	Char	13	\$13.	\$13.	Name
2	STRING	Char	236	\$236.	\$236.	Projection String
3	DESC	Char	73	\$73.	\$73.	Description

### The First Five Observations Out of 7,124

NAME	STRING	DESC
EPSG:3819	+proj=longlat +ellps=bessel +towgs84=595.48,121.69,515.35,4.115,-2.9383,0.853,-3.408 +no_defs	HD1909
EPSG:3821	+proj=longlat +ellps=aust_SA +no_defs	TWD67
EPSG:3824	+proj=longlat +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +no_defs	TWD97
EPSG:3889	+proj=longlat +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +no_defs	IGRS
EPSG:3906	+proj=longlat +ellps=bessel +towgs84=682,-203,480,0,0,0,0 +no_defs	MGI 1901

---

## Sashelp.qtr1001 — M-Competition 1001 Series, Quarterly

The Sashelp.qtr1001 data set provides *m*-competition 1001 series, quarterly. The following steps display information about the data set Sashelp.qtr1001 and create [Figure 1.86](#). The data set contains 101 observations.

```
title "Sashelp.qtr1001 --- M-Competition 1001 Series, Quarterly";
proc contents data=sashelp.qtr1001 varnum;
    ods select position;
run;
```

```
title "The First Five Observations Out of 101";
proc print data=sashelp.qtr1001(obs=5) noobs;
run;
```

**Figure 1.86** Sashelp.qtr1001 — M-Competition 1001 Series, Quarterly  
**Sashelp.qtr1001 --- M-Competition 1001 Series, Quarterly**

**The CONTENTS Procedure**

Variables in Creation Order			
#	Variable	Type	Len
1	T	Num	4
2	S0184	Num	5
3	S0185	Num	5
4	S0188	Num	5
5	S0189	Num	5
6	S0191	Num	5
7	S0192	Num	5
8	S0195	Num	5
9	S0196	Num	5
10	S0199	Num	5
11	S0205	Num	5
12	S0206	Num	5
13	S0207	Num	5
14	S0212	Num	5
15	S0213	Num	5
16	S0217	Num	5
17	S0219	Num	5
18	S0224	Num	5
19	S0225	Num	5
20	S0226	Num	5
21	S0228	Num	5
22	S0229	Num	5
23	S0230	Num	5
24	S0231	Num	5
25	S0233	Num	5
26	S0234	Num	5
27	S0235	Num	5
28	S0236	Num	5
29	S0237	Num	5
30	S0238	Num	5
31	S0240	Num	5
32	S0266	Num	5
33	S0267	Num	5
34	S0270	Num	5
35	S0276	Num	5
36	S0277	Num	5
37	S0278	Num	5
38	S0280	Num	5
39	S0285	Num	5
40	S0286	Num	5
41	S0287	Num	5
42	S0289	Num	5
43	S0290	Num	5



Figure 1.86 *continued*

## Sashelp.qtr1001 --- M-Competition 1001 Series, Quarterly

## The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
44	S0292	Num	5
45	S0293	Num	5
46	S0296	Num	5
47	S0297	Num	5
48	S0301	Num	5
49	S0307	Num	5
50	S0308	Num	5
51	S0317	Num	5
52	S0318	Num	5
53	S0322	Num	5
54	S0323	Num	5
55	S0324	Num	5
56	S0325	Num	5
57	S0326	Num	5
58	S0328	Num	5
59	S0329	Num	5
60	S0330	Num	5
61	S0332	Num	5
62	S0333	Num	5
63	S0335	Num	5
64	S0336	Num	5
65	S0337	Num	5
66	S0338	Num	5
67	S0344	Num	5
68	S0345	Num	5
69	S0351	Num	5
70	S0352	Num	5
71	S0360	Num	5
72	S0361	Num	5
73	S0363	Num	5
74	S0364	Num	5
75	S0365	Num	5
76	S0366	Num	5
77	S0367	Num	5
78	S0368	Num	5
79	S0369	Num	5
80	S0370	Num	5
81	S0371	Num	5
82	S0374	Num	5
83	S0375	Num	5
84	S0376	Num	5
85	S0378	Num	5
86	S0380	Num	5

Figure 1.86 continued

Sashelp.qtr1001 --- M-Competition 1001 Series, Quarterly

The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
87	S0381	Num	5
88	S0382	Num	5
89	S0383	Num	5
90	S0384	Num	5

The First Five Observations Out of 101

T	S0184	S0185	S0188	S0189	S0191	S0192	S0195	S0196	S0199	S0205	S0206	S0207	S0212	S0213	S0217	S0219	S0224	S0225
1	94	9366.37	13.3000	30.1888	5666	29	17050	65896	68462	1299	960	960	34	290.460	2334	2310	1440	41
2	132	9169.55	33.9000	38.5167	5405	37	18408	63922	63023	1212	923	923	92	292.330	2598	4190	1436	41
3	131	7776.84	19.6000	43.7217	5001	42	18540	76160	71918	1031	777	777	76	262.370	3067	10735	1358	38
4	127	11186.30	14.2000	46.8446	4688	45	20505	77622	81403	1118	956	956	85	299.720	3318	4009	1525	44
5	77	11710.70	18.4000	36.4347	5492	35	18523	78125	80790	1248	1140	1140	77	286.560	2710	4134	1559	45

S0226	S0228	S0229	S0230	S0231	S0233	S0234	S0235	S0236	S0237	S0238	S0240	S0266	S0267	S0270	S0276	S0277	S0278
31	52	82	77	14.7000	7	14	34	59	309	65.1000	585.641	81	48	72	23.6000	36.8000	157.800
40	67	81	88	15.0000	7	15	35	63	341	65.9000	590.403	91	51	76	30.4000	50.3000	209.100
40	61	66	64	11.9000	7	15	30	55	339	65.8000	495.177	100	47	65	29.0000	47.0000	193.100
44	64	85	90	15.7000	8	14	32	66	380	73.6000	616.590	92	51	80	27.8000	50.1000	211.100
32	61	82	71	15.3000	8	12	26	52	386	65.0000	602.306	87	50	78	30.6000	43.9000	191.700

S0280	S0285	S0286	S0287	S0289	S0290	S0292	S0293	S0296	S0297	S0301	S0307	S0308	S0317	S0318	S0322	S0323	S0324	S0325
133.700	77	100	64	81	682	108	1026	2892	65	63	7.09000	63	160	83.8000	81	55	71	64
194.400	78	100	55	79	673	103	1134	3206	71	63	8.46000	67	161	90.7000	82	58	74	63
186.900	76	97	53	81	667	102	1078	2867	70	61	8.62000	70	147	80.6000	65	50	73	61
189.900	91	108	60	86	786	130	1226	3446	74	60	9.38000	71	139	84.3000	83	60	72	60
184.100	91	106	75	86	793	87	1087	3320	69	58	8.06000	69	149	92.7000	83	61	70	58

S0326	S0328	S0329	S0330	S0332	S0333	S0335	S0336	S0337	S0338	S0344	S0345	S0351	S0352	S0360	S0361	S0363
85	83.8000	81.8000	82.0000	82.9000	84.4000	2.66000	60	54.1000	63	77	75	99.000	94.700	16.3100	4.56000	3.50000
73	90.7000	85.0000	84.7000	84.8000	90.7000	3.66000	62	59.5000	67	78	74	99.400	96.900	16.7200	3.56000	1.80000
58	80.6000	86.8000	86.0000	86.5000	81.1000	3.27000	60	56.5000	70	65	61	100.600	100.600	16.8400	3.38000	1.80000
57	84.3000	86.4000	85.6000	86.3000	84.7000	2.58000	64	63.9000	71	84	80	100.600	102.800	16.8300	3.46000	1.90000
59	92.7000	86.1000	88.4000	88.5000	91.0000	2.49000	60	57.8000	69	84	83	99.400	104.100	16.9400	4.06000	2.40000

S0364	S0365	S0366	S0367	S0368	S0369	S0370	S0371	S0374	S0375	S0376	S0378	S0380	S0381	S0382	S0383	S0384
6903	1.03000	82	43	313	37.2000	2.10000	29.0000	102	561	87.3000	197	1184	71.0000	40.8000	659	6.42000
7047	1.04000	85	63	321	15.7000	3.90000	30.1000	102	373	90.1000	348	1196	50.9000	36.9000	660	6.16000
7162	1.07000	33	74	325	11.0000	2.90000	30.6000	100	282	92.9000	360	1209	40.0000	44.2000	661	6.30000
7250	1.06000	44	64	324	26.6000	2.50000	31.3000	104	346	91.5000	668	1216	43.0000	62.1000	673	7.58000
7269	1.07000	47	70	325	28.9000	3.20000	33.2000	100	546	91.5000	630	1242	51.8410	57.1000	686	7.87000

## Sashelp.qtr111 — M-Competition 111 Series, Quarterly

The Sashelp.qtr111 data set provides *m*-competition 111 series, quarterly. The following steps display information about the data set Sashelp.qtr111 and create Figure 1.87. The data set contains 57 observations.

```

title "Sashelp.qtr111 --- M-Competition 111 Series, Quarterly";
proc contents data=sashelp.qtr111 varnum;
    ods select position;
run;

title "The First Five Observations Out of 57";
proc print data=sashelp.qtr111(obs=5) noobs;
run;

```

**Figure 1.87** Sashelp.qtr111 — M-Competition 111 Series, Quarterly

### Sashelp.qtr111 --- M-Competition 111 Series, Quarterly

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	T	Num	4
2	S184	Num	5
3	S229	Num	5
4	S238	Num	5
5	S292	Num	5
6	S301	Num	5
7	S328	Num	5
8	S337	Num	5
9	S364	Num	5
10	S382	Num	5

#### The First Five Observations Out of 57

T	S184	S229	S238	S292	S301	S328	S337	S364	S382
1	94	82	65.1000	108	63	83.8000	54.1000	6903	40.8000
2	132	81	65.9000	103	63	90.7000	59.5000	7047	36.9000
3	131	66	65.8000	102	61	80.6000	56.5000	7162	44.2000
4	127	85	73.6000	130	60	84.3000	63.9000	7250	62.1000
5	77	82	65.0000	87	58	92.7000	57.8000	7269	57.1000

## Sashelp.quakes — Earthquake Locations in the United States

The Sashelp.Quakes data set provides locations and measurements of earthquakes in the United States. These data are provided courtesy of the United States Geological Service. The following steps display information about the data set Sashelp.quakes and create [Figure 1.88](#). The data set contains 15,578 observations.

```

title "Sashelp.quakes --- Earthquake Locations in the United States";
proc contents data=sashelp.quakes varnum;
    ods select position;
run;

title "The First Five Observations Out of 15,578";
proc print data=sashelp.quakes (obs=5) noobs;
run;

```

**Figure 1.88** Sashelp.quakes — Earthquake Locations in the United States  
**Sashelp.quakes --- Earthquake Locations in the United States**

### The CONTENTS Procedure

Variables in Creation Order		
#	Variable	Type Len
1	Latitude	Num 8
2	Longitude	Num 8
3	Depth	Num 8
4	Magnitude	Num 8
5	dNearestStation	Num 8
6	RootMeanSquareTime	Num 8
7	Type	Char 10

### The First Five Observations Out of 15,578

Latitude	Longitude	Depth	Magnitude	dNearestStation	RootMeanSquareTime	Type
35.6880	-121.129	6.2500	2.75	0.02121	0.0700	earthquake
41.9009	-119.622	0.0000	4.59	0.50700	0.0742	earthquake
41.8836	-119.641	0.5329	3.19	0.49300	0.0000	earthquake
41.8897	-119.640	0.5077	3.12	0.49400	0.0119	earthquake
40.8783	-123.270	33.5700	2.60	0.22160	0.0600	earthquake

## Sashelp.rent

The Sashelp.rent data set provides a data set with two variables, date and amount. The following steps display information about the data set Sashelp.rent and create [Figure 1.89](#). The data set contains 10 observations.

```

title "Sashelp.rent";
proc contents data=sashelp.rent varnum;
    ods select position;
run;

title "The First Five Observations Out of 10";
proc print data=sashelp.rent (obs=5) noobs;
run;

```

**Figure 1.89** Sashelp.rent

### Sashelp.rent

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 10

DATE	AMOUNT
01JAN1997	-23000
01JAN1998	-23000
01JAN1999	-23000
01JAN2000	-23000
01JAN2001	-23000

## Sashelp.retail — Retail Sales (Quarterly: 1980q1-1994q2)

The Sashelp.retail data set provides retail sales (quarterly: 1980q1–1994q2). The following steps display information about the data set Sashelp.retail and create [Figure 1.90](#). The data set contains 58 observations.

```

title "Sashelp.retail --- Retail Sales (Quarterly: 1980q1-1994q2)";
proc contents data=sashelp.retail varnum;
    ods select position;
run;

title "The First Five Observations Out of 58";
proc print data=sashelp.retail(obs=5) noobs;
run;

```

**Figure 1.90** Sashelp.retail — Retail Sales (Quarterly: 1980q1-1994q2)

### Sashelp.retail --- Retail Sales (Quarterly: 1980q1-1994q2)

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	SALES	Num	8	DOLLAR10. Retail sales in millions of \$
2	DATE	Num	8	YYQ4.
3	YEAR	Num	8	
4	MONTH	Num	8	
5	DAY	Num	8	

#### The First Five Observations Out of 58

SALES	DATE	YEAR	MONTH	DAY
\$220	80Q1	1980	1	1
\$257	80Q2	1980	4	1
\$258	80Q3	1980	7	1
\$295	80Q4	1980	10	1
\$247	81Q1	1981	1	1

## Sashelp.revhub2 — Airline Data

The Sashelp.revhub2 data set provides airline data. The following steps display information about the data set Sashelp.revhub2 and create Figure 1.91. The data set contains 72 observations.

```

title "Sashelp.revhub2 --- Airline Data";
proc contents data=sashelp.revhub2 varnum;
    ods select position;
run;

title "The First Five Observations Out of 72";
proc print data=sashelp.revhub2 (obs=5) noobs;
run;

title "The HUB and SOURCE Variables";
proc freq data=sashelp.revhub2;
    tables HUB;
    tables SOURCE;
run;

```

**Figure 1.91** Sashelp.revhub2 — Airline Data

### Sashelp.revhub2 --- Airline Data

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	HUB	Char	16		HUB
2	SOURCE	Char	16		REVENUE SOURCE
3	TYPE	Char	16		TYPE
4	REVENUE	Num	8	DOLLAR15.	REVENUE

#### The First Five Observations Out of 72

HUB	SOURCE	TYPE	REVENUE
Frankfurt	Freight	Direct	\$1,464,938
Frankfurt	Freight	Indirect	\$198,942
Frankfurt	Freight	Other	\$144,685
Frankfurt	Other	Direct	\$111,193
Frankfurt	Other	Indirect	\$12,057

**Figure 1.91** *continued***The HUB and SOURCE Variables****The FREQ Procedure**


---

HUB				
HUB	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Frankfurt	12	16.67	12	16.67
London	12	16.67	24	33.33
New York	12	16.67	36	50.00
San Francisco	12	16.67	48	66.67
Sydney	12	16.67	60	83.33
Tokyo	12	16.67	72	100.00

---

REVENUE SOURCE				
SOURCE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Freight	18	25.00	18	25.00
Other	18	25.00	36	50.00
Passenger	18	25.00	54	75.00
Service	18	25.00	72	100.00

---



## Sashelp.rockpit

The Sashelp.rockpit data set provides sample data for a SAS/ETS example, performing time value analysis. The following steps display information about the data set Sashelp.rockpit and create [Figure 1.92](#). The data set contains 6 observations.

```

title "Sashelp.rockpit";
proc contents data=sashelp.rockpit varnum;
    ods select position;
run;

title "The First Five Observations Out of 6";
proc print data=sashelp.rockpit(obs=5) noobs;
run;

```

**Figure 1.92** Sashelp.rockpit

### Sashelp.rockpit

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	DATE9. Date
2	AMOUNT	Num	8	

#### The First Five Observations Out of 6

DATE	AMOUNT
01JAN1998	-84000
01JAN1999	-36000
01JAN2000	-36000
01JAN2001	-120000
01JAN2002	-36000

## Sashelp.shoes — Fictitious Shoe Company Data

The Sashelp.shoes data set provides fictitious shoe company data. The following steps display information about the data set Sashelp.shoes and create Figure 1.93. The data set contains 395 observations.

```

title "Sashelp.shoes --- Fictitious Shoe Company Data";
proc contents data=sashelp.shoes varnum;
    ods select position;
run;

title "The First Five Observations Out of 395";
proc print data=sashelp.shoes (obs=5) noobs;
run;

title "The Product Variable";
proc freq data=sashelp.shoes;
    tables Product;
run;

```

**Figure 1.93** Sashelp.shoes — Fictitious Shoe Company Data  
**Sashelp.shoes --- Fictitious Shoe Company Data**

### The CONTENTS Procedure

Variables in Creation Order						
#	Variable	Type	Len	Format	Informat	Label
1	Region	Char	25			
2	Product	Char	14			
3	Subsidiary	Char	12			
4	Stores	Num	8			Number of Stores
5	Sales	Num	8	DOLLAR12.	DOLLAR12.	Total Sales
6	Inventory	Num	8	DOLLAR12.	DOLLAR12.	Total Inventory
7	Returns	Num	8	DOLLAR12.	DOLLAR12.	Total Returns

### The First Five Observations Out of 395

Region	Product	Subsidiary	Stores	Sales	Inventory	Returns
Africa	Boot	Addis Ababa	12	\$29,761	\$191,821	\$769
Africa	Men's Casual	Addis Ababa	4	\$67,242	\$118,036	\$2,284
Africa	Men's Dress	Addis Ababa	7	\$76,793	\$136,273	\$2,433
Africa	Sandal	Addis Ababa	10	\$62,819	\$204,284	\$1,861
Africa	Slipper	Addis Ababa	14	\$68,641	\$279,795	\$1,771

**Figure 1.93** *continued***The Product Variable****The FREQ Procedure**

<b>Product</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
<b>Boot</b>	52	13.16	52	13.16
<b>Men's Casual</b>	45	11.39	97	24.56
<b>Men's Dress</b>	50	12.66	147	37.22
<b>Sandal</b>	49	12.41	196	49.62
<b>Slipper</b>	52	13.16	248	62.78
<b>Sport Shoe</b>	51	12.91	299	75.70
<b>Women's Casual</b>	45	11.39	344	87.09
<b>Women's Dress</b>	51	12.91	395	100.00

## Sashelp.snacks — Daily Snack Food Sales

The Sashelp.snacks data set provides daily snack food sales. The following steps display information about the data set Sashelp.snacks and create [Figure 1.94](#). The data set contains 35,770 observations.

```

title "Sashelp.snacks --- Daily Snack Food Sales";
proc contents data=sashelp.snacks varnum;
    ods select position;
run;

title "The First Five Observations Out of 35,770";
proc print data=sashelp.snacks(obs=5) noobs;
run;

title "The Product Variable";
proc freq data=sashelp.snacks;
    tables Product;
run;

```

**Figure 1.94** Sashelp.snacks — Daily Snack Food Sales  
**Sashelp.snacks --- Daily Snack Food Sales**

### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	QtySold	Num	8		Quantity sold
2	Price	Num	8		Retail price of product
3	Advertised	Num	8		Advertised (1=yes)
4	Holiday	Num	8		Holiday (1=yes)
5	Date	Num	8	DATE9.	Date of sale
6	Product	Char	40		Product name

### The First Five Observations Out of 35,770

QtySold	Price	Advertised	Holiday	Date	Product
0	1.99	0	0	01JAN2002	Baked potato chips
0	1.99	0	0	02JAN2002	Baked potato chips
0	1.99	0	0	03JAN2002	Baked potato chips
0	1.99	0	0	04JAN2002	Baked potato chips
0	1.99	0	0	05JAN2002	Baked potato chips

**Figure 1.94** *continued*  
**The Product Variable**  
**The FREQ Procedure**

Product	Product name		Cumulative Frequency	Cumulative Percent
	Frequency	Percent		
Baked potato chips	1022	2.86	1022	2.86
Barbeque pork rinds	1022	2.86	2044	5.71
Barbeque potato chips	1022	2.86	3066	8.57
Bread sticks	1022	2.86	4088	11.43
Buttery popcorn	1022	2.86	5110	14.29
Carmelized popcorn	1022	2.86	6132	17.14
Cheddar cheese break sticks	1022	2.86	7154	20.00
Cheddar cheese popcorn	1022	2.86	8176	22.86
Cheese puffs	1022	2.86	9198	25.71
Classic potato chips	1022	2.86	10220	28.57
Easy dip tortilla chips	1022	2.86	11242	31.43
Extra hot pork rinds	1022	2.86	12264	34.29
Fiesta sticks	1022	2.86	13286	37.14
Fried pork rinds	1022	2.86	14308	40.00
Hot spicy cheese puffs	1022	2.86	15330	42.86
Jalepeno sticks	1022	2.86	16352	45.71
Jumbo pretzel sticks	1022	2.86	17374	48.57
Low-fat popcorn	1022	2.86	18396	51.43
Low-fat saltines	1022	2.86	19418	54.29
Multigrain chips	1022	2.86	20440	57.14
Pepper sticks	1022	2.86	21462	60.00
Pretzel sticks	1022	2.86	22484	62.86
Pretzel twists	1022	2.86	23506	65.71
Ruffled potato chips	1022	2.86	24528	68.57
Rye crackers	1022	2.86	25550	71.43
Salt and vinegar potato chips	1022	2.86	26572	74.29
Saltine crackers	1022	2.86	27594	77.14
Shredded wheat crackers	1022	2.86	28616	80.00
Stone-ground wheat sticks	1022	2.86	29638	82.86
Sun-dried tomato multigrain chips	1022	2.86	30660	85.71
Tortilla chips	1022	2.86	31682	88.57
WOW cheese puffs	1022	2.86	32704	91.43
WOW potato chips	1022	2.86	33726	94.29
WOW tortilla chips	1022	2.86	34748	97.14
Wheat crackers	1022	2.86	35770	100.00

## Sashelp.span\_multi

The Sashelp.Span\_multi data set contains common Spanish phrases. The following steps display information about the data set Sashelp.span\_multi and create [Figure 1.95](#). The data set contains 509 observations.

```

title "Sashelp.span_multi";
proc contents data=sashelp.span_multi varnum;
  ods select position;
run;

title "The First Five Observations Out of 509";
proc print data=sashelp.span_multi(obs=5) noobs;
run;

```

**Figure 1.95** Sashelp.span\_multi

### Sashelp.span\_multi

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Informat Label
1	Role	Char	12		Role
2	Term	Char	256	\$256.	\$256. Term
3	numdocs	Num	8		# Documents

#### The First Five Observations Out of 509

	Role	Term	numdocs
Adv	a bordo		815
Adv	a caballo		12
Adv	a cabo		4248
Adv	a centenas		2
Adv	a ciegas		3

## Sashelp.springs — Hot Spring Locations in the United States

The Sashelp.Springs data set provides locations and measurements of hot springs in the United States. These data are provided courtesy of the National Oceanic and Atmospheric Administration. The following steps display information about the data set Sashelp.springs and create [Figure 1.96](#). The data set contains 1,587 observations.

```

title "Sashelp.springs --- Hot Spring Locations in the United States";
proc contents data=sashelp.springs varnum;
  ods select position;
run;

title "The First Five Observations Out of 1,587";
proc print data=sashelp.springs (obs=5) noobs;
run;

```

**Figure 1.96** Sashelp.springs — Hot Spring Locations in the United States

### Sashelp.springs --- Hot Spring Locations in the United States

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	Latitude	Num	8
2	Longitude	Num	8
3	Name	Char	34
4	Area	Char	14
5	Type	Char	9
6	Fahrenheit	Num	8
7	Celsius	Num	8

#### The First Five Observations Out of 1,587

Latitude	Longitude	Name	Area	Type	Fahrenheit	Celsius
51.925	-177.160	Fumaroles on Kanaga Island	Adak	Hotspring	219	104
65.858	-164.710	Serpentine Hot Springs	Bendeleben	Hotspring	171	77
53.851	-166.918	Hot Springs Near Makushin Volcano	Unalaska	Hotspring	H	H
53.877	-166.448	Hot Springs Near Summer Bay	Unalaska	Hotspring	H	H
52.270	-174.042	Hot Springs on Atka Island	Atka	Hotspring	H	H

## Sashelp.steel — Iron/Steel Exports (Yearly: 1937-1980)

The Sashelp.steel data set provides iron/steel exports (yearly: 1937–1980). The following steps display information about the data set Sashelp.steel and create [Figure 1.97](#). The data set contains 44 observations.

```

title "Sashelp.steel --- Iron/Steel Exports (Yearly: 1937-1980)";
proc contents data=sashelp.steel varnum;
    ods select position;
run;

title "The First Five Observations Out of 44";
proc print data=sashelp.steel(obs=5) noobs;
run;

```

**Figure 1.97** Sashelp.steel — Iron/Steel Exports (Yearly: 1937-1980)

### Sashelp.steel --- Iron/Steel Exports (Yearly: 1937-1980)

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	YEAR.
2	STEEL	Num	8	iron/steel exports in million tons

#### The First Five Observations Out of 44

DATE	STEEL
1937	3.89
1938	2.41
1939	2.80
1940	8.72
1941	7.12



## Sashelp.stocks — Performance of Three Stocks from 1996 to 2005

The Sashelp.stocks data set provides the performance of three stocks from 1996 to 2005. The following steps display information about the data set Sashelp.stocks and create Figure 1.98. The data set contains 699 observations.

```

title "Sashelp.stocks --- Performance of Three Stocks from 1996 to 2005";
proc contents data=sashelp.stocks varnum;
    ods select position;
run;

title "The First Five Observations Out of 699";
proc print data=sashelp.stocks(obs=5) noobs;
run;

```

**Figure 1.98** Sashelp.stocks — Performance of Three Stocks from 1996 to 2005

### Sashelp.stocks --- Performance of Three Stocks from 1996 to 2005

#### The CONTENTS Procedure

Variables in Creation Order							
#	Variable	Type	Len	Format	Informat	Label	
1	Stock	Char	9				
2	Date	Num	8	DATE.		DATE.	
3	Open	Num	8	DOLLAR8.2		BEST32.	
4	High	Num	8	DOLLAR8.2		BEST32.	
5	Low	Num	8	DOLLAR8.2		BEST32.	
6	Close	Num	8	DOLLAR8.2		BEST32.	
7	Volume	Num	8	COMMA12.		BEST32.	
8	AdjClose	Num	8	DOLLAR8.2		BEST32.	Adjusted Close

#### The First Five Observations Out of 699

Stock	Date	Open	High	Low	Close	Volume	AdjClose
IBM	01DEC05	\$89.15	\$89.92	\$81.56	\$82.20	5,976,252	\$81.37
IBM	01NOV05	\$81.85	\$89.94	\$80.64	\$88.90	5,556,471	\$88.01
IBM	03OCT05	\$80.22	\$84.60	\$78.70	\$81.88	7,019,666	\$80.86
IBM	01SEP05	\$80.16	\$82.11	\$76.93	\$80.22	5,772,280	\$79.22
IBM	01AUG05	\$83.00	\$84.20	\$79.87	\$80.62	4,801,386	\$79.62

## Sashelp.syr1001 — M-Competition 1001 Series, Semiannual

The Sashelp.syr1001 data set provides *m*-competition 1001 series, semiannual. The following steps display information about the data set Sashelp.syr1001 and create Figure 1.99. The data set contains 105 observations.

```

title "Sashelp.syr1001 --- M-Competition 1001 Series, Semiannual";
proc contents data=sashelp.syr1001 varnum;
    ods select position;
run;

title "The First Five Observations Out of 105";
proc print data=sashelp.syr1001(obs=5) noobs;
run;

```

**Figure 1.99** Sashelp.syr1001 — M-Competition 1001 Series, Semiannual  
**Sashelp.syr1001 --- M-Competition 1001 Series, Semiannual**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	T	Num	4
2	S0502	Num	5
3	S0666	Num	5

### The First Five Observations Out of 105

	T	S0502	S0666
1	425	1.80000	
2	425	1.52000	
3	421	1.51000	
4	322	1.80000	
5	414	1.85000	

## Sashelp.tgrmapc — US County Names and State/County FIPS Codes

The Sashelp.tgrmapc data set provides US county names and state/county FIPS codes. The following steps display information about the data set Sashelp.tgrmapc and create [Figure 1.100](#). The data set contains 3,143 observations.

```

title "Sashelp.tgrmapc --- US County Names and State/County FIPS Codes";
proc contents data=sashelp.tgrmapc varnum;
    ods select position;
run;

title "The First Five Observations Out of 3,143";
proc print data=sashelp.tgrmapc(obs=5) noobs;
run;

```

**Figure 1.100** Sashelp.tgrmapc — US County Names and State/County FIPS Codes  
**Sashelp.tgrmapc --- US County Names and State/County FIPS Codes**

### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	STATE	Num	7 State FIPS Code
2	COUNTY	Num	7 County FIPS Code
3	COUNTYNM	Char	25 County Name

### The First Five Observations Out of 3,143

STATE	COUNTY	COUNTYNM
1	1	1 Autauga
1	3	3 Baldwin
1	5	5 Barbour
1	7	7 Bibb
1	9	9 Blount

## Sashelp.tgrmaps — US State Names and FIPS Codes

The Sashelp.tgrmaps data set provides US state names and FIPS codes. The following steps display information about the data set Sashelp.tgrmaps and create Figure 1.101. The data set contains 51 observations.

```

title "Sashelp.tgrmaps --- US State Names and FIPS Codes";
proc contents data=sashelp.tgrmaps varnum;
  ods select position;
run;

title "The First Five Observations Out of 51";
proc print data=sashelp.tgrmaps (obs=5) noobs;
run;

```

**Figure 1.101** Sashelp.tgrmaps — US State Names and FIPS Codes

### Sashelp.tgrmaps --- US State Names and FIPS Codes

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	STATE	Num	7 State FIPS Code
2	STATEN	Char	20

#### The First Five Observations Out of 51

STATE	STATEN
1	Alabama
2	Alaska
4	Arizona
5	Arkansas
6	California

## Sashelp.thick — Coal Seam Thickness

The Sashelp.Thick data set simulates measurements of coal seam thickness (in feet) taken over an approximately square area. The variable Thick contains the thickness values. The coordinates are offsets from a point in the southwest corner of the measurement area, where the unit for the north and east distances is 1,000 feet. The following steps display information about the data set Sashelp.thick and create [Figure 1.102](#). The data set contains 75 observations.

```

title "Sashelp.thick --- Coal Seam Thickness";
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) noobs;
run;

```

**Figure 1.102** Sashelp.thick — Coal Seam Thickness

### Sashelp.thick --- Coal Seam Thickness

#### The CONTENTS Procedure

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

East	North	Thick
0.7	59.6	34.1
2.1	82.7	42.2
4.7	75.1	39.5
4.8	52.8	34.3
5.9	67.1	37.0

## Sashelp.timedata — Time-Stamped Data

The Sashelp.timedata data set provides time-stamped data. The following steps display information about the data set Sashelp.timedata and create Figure 1.103. The data set contains 40,330 observations.

```

title "Sashelp.timedata --- Time-Stamped Data";
proc contents data=sashelp.timedata varnum;
    ods select position;
run;

title "The First Five Observations Out of 40,330";
proc print data=sashelp.timedata(obs=5) noobs;
run;

```

**Figure 1.103** Sashelp.timedata — Time-Stamped Data

### Sashelp.timedata --- Time-Stamped Data

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	volume	Num	8		Volume
2	datetime	Num	8	DATETIME18.	Datetime of recordings

#### The First Five Observations Out of 40,330

	volume	datetime
1	25JUL97:00:00:00	
4	25JUL97:00:30:00	
2	25JUL97:01:00:00	
1	25JUL97:02:00:00	
2	25JUL97:02:30:00	

## Sashelp.tourism — Tourism Demand Modeling and Forecasting

The Sashelp.tourism data set provides tourism demand modeling and forecasting. The following steps display information about the data set Sashelp.tourism and create Figure 1.104. The data set contains 29 observations.

```

title "Sashelp.tourism --- Tourism Demand Modeling and Forecasting";
proc contents data=sashelp.tourism varnum;
    ods select position;
run;

title "The First Five Observations Out of 29";
proc print data=sashelp.tourism(obs=5) noobs;
run;

```

**Figure 1.104** Sashelp.tourism — Tourism Demand Modeling and Forecasting  
Sashelp.tourism --- Tourism Demand Modeling and Forecasting

### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	year	Num	8	YEAR4. Year
2	vsp	Num	8	the number of holidays in Spain taken by US residents
3	pdi	Num	8	UK real personal disposable income
4	puk	Num	8	the implicit deflator of UK consumer expenditure
5	exuk	Num	8	an exchange rate index of the UK pound against the US dollar
6	pop	Num	8	the UK population
7	cpisp	Num	8	the consumer price index in Spain
8	exsp	Num	8	an exchange rate index of Spanish pesetas against the US dollar

### The First Five Observations Out of 29

year	vsp	pdi	puk	exuk	pop	cpisp	exsp
1966	1.2823	201207	0.13425	0.48571	54.643	0.09616	0.43519
1967	1.2718	204171	0.13774	0.56320	54.959	0.10231	0.50555
1968	1.5370	207772	0.14430	0.56836	55.216	0.10743	0.50642
1969	1.9501	209684	0.15227	0.56452	55.461	0.10982	0.50816
1970	1.8300	217675	0.16125	0.56616	55.632	0.11358	0.50569

## Sashelp.usecon — Source: US BEA, "Business Statistics"

The following steps display information about the data set Sashelp.usecon and create Figure 1.105. The data set contains 252 observations.

```

title "Sashelp.usecon --- Source: US BEA, "Business Statistics"";
proc contents data=sashelp.usecon varnum;
    ods select position;
run;

title "The First Five Observations Out of 252";
proc print data=sashelp.usecon(obs=5) noobs;
run;

```

**Figure 1.105** Sashelp.usecon — Source: US BEA, "Business Statistics"

### Sashelp.usecon --- Source: US BEA, "Business Statistics"

#### The CONTENTS Procedure

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	DATE	Num	5	MONYY.	
2	AIRRPMD	Num	5		Airline Revenue Passenger Miles Domestic
3	AIRRPMT	Num	5		Airline Revenue Passenger Miles Total
4	CHEMICAL	Num	5		Sales: Chemicals and Allied Products
5	COAL	Num	5		Bituminous Coal Production
6	DURABLES	Num	5		Sales: Durable Goods Industries, Total
7	HS1FAM	Num	5		Housing Starts, One-family structures
8	HSTOTAL	Num	5		Housing Starts, Total Private
9	NONDUR	Num	5		Sales: Nondurable Goods Industries Total
10	PETROL	Num	5		Sales: Petroleum and Coal Products
11	TOBACCO	Num	5		Sales: Tobacco Products
12	VEHICLES	Num	5		Sales: Motor Vehicles and Parts

#### The First Five Observations Out of 252

DATE	AIRRPMD	AIRRPMT	CHEMICAL	COAL	DURABLES	HS1FAM	HSTOTAL	NONDUR	PETROL	TOBACCO	VEHICLES
JAN71	8.43999	10.5200	3896	49780	26617	.	.	23314	2154	425	4367
FEB71	7.20000	8.9900	4346	47029	29829	.	.	25407	2250	433	5147
MAR71	8.17000	10.1400	4318	56920	31336	.	.	25832	2165	445	5418
APR71	9.02000	11.1500	4536	54336	30484	.	.	25773	2223	440	4897
MAY71	8.39999	10.8400	4454	50442	31008	.	.	25560	2190	458	5002



---

## Sashelp.us\_data — Apportionment, Population Change, Population Density

The Sashelp.us\_data data set provides apportionment, population change, and population density. The following steps display information about the data set Sashelp.us\_data and create [Figure 1.106](#). The data set contains 52 observations.

```
title "Sashelp.us_data --- Apportionment, Population Change, Population Density";  
proc contents data=sashelp.us_data varnum;  
    ods select position;  
run;
```

```
title "The First Five Observations Out of 52";  
proc print data=sashelp.us_data(obs=5) noobs;  
run;
```

**Figure 1.106** Sashelp.us\_data — Apportionment, Population Change, Population Density  
**Sashelp.us\_data --- Apportionment, Population Change, Population Density**

**The CONTENTS Procedure**

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	STATENAME	Char	20	Name of State or Region
2	DENSITY_1910	Num	8	COMMA8.1 1910_People per Square Mile
3	DENSITY_1920	Num	8	COMMA8.1 1920_People per Square Mile
4	DENSITY_1930	Num	8	COMMA8.1 1930_People per Square Mile
5	DENSITY_1940	Num	8	COMMA8.1 1940_People per Square Mile
6	DENSITY_1950	Num	8	COMMA8.1 1950_People per Square Mile
7	DENSITY_1960	Num	8	COMMA8.1 1960_People per Square Mile
8	DENSITY_1970	Num	8	COMMA8.1 1970_People per Square Mile
9	DENSITY_1980	Num	8	COMMA8.1 1980_People per Square Mile
10	DENSITY_1990	Num	8	COMMA8.1 1990_People per Square Mile
11	DENSITY_2000	Num	8	COMMA8.1 2000_People per Square Mile
12	DENSITY_2010	Num	8	COMMA8.1 2010_People per Square Mile
13	RANK_1910	Num	8	1910_Density Rank: Most Dense(1) to Least Dense(52)
14	RANK_1920	Num	8	1920_Density Rank: Most Dense(1) to Least Dense(52)
15	RANK_1930	Num	8	1930_Density Rank: Most Dense(1) to Least Dense(52)
16	RANK_1940	Num	8	1940_Density Rank: Most Dense(1) to Least Dense(52)
17	RANK_1950	Num	8	1950_Density Rank: Most Dense(1) to Least Dense(52)
18	RANK_1960	Num	8	1960_Density Rank: Most Dense(1) to Least Dense(52)
19	RANK_1970	Num	8	1970_Density Rank: Most Dense(1) to Least Dense(52)
20	RANK_1980	Num	8	1980_Density Rank: Most Dense(1) to Least Dense(52)
21	RANK_1990	Num	8	1990_Density Rank: Most Dense(1) to Least Dense(52)
22	RANK_2000	Num	8	2000_Density Rank: Most Dense(1) to Least Dense(52)
23	RANK_2010	Num	8	2010_Density Rank: Most Dense(1) to Least Dense(52)
24	REPS_1910	Num	8	1910_Number of Representatives
25	REPS_1920	Num	8	1920_Number of Representatives
26	REPS_1930	Num	8	1930_Number of Representatives
27	REPS_1940	Num	8	1940_Number of Representatives
28	REPS_1950	Num	8	1950_Number of Representatives
29	REPS_1960	Num	8	1960_Number of Representatives
30	REPS_1970	Num	8	1970_Number of Representatives
31	REPS_1980	Num	8	1980_Number of Representatives
32	REPS_1990	Num	8	1990_Number of Representatives
33	REPS_2000	Num	8	2000_Number of Representatives
34	REPS_2010	Num	8	2010_Number of Representatives
35	PEOPLE_PER_REP_1910	Num	8	COMMA10. 1910_People per Representative
36	PEOPLE_PER_REP_1920	Num	8	COMMA10. 1920_People per Representative
37	PEOPLE_PER_REP_1930	Num	8	COMMA10. 1930_People per Representative
38	PEOPLE_PER_REP_1940	Num	8	COMMA10. 1940_People per Representative
39	PEOPLE_PER_REP_1950	Num	8	COMMA10. 1950_People per Representative
40	PEOPLE_PER_REP_1960	Num	8	COMMA10. 1960_People per Representative
41	PEOPLE_PER_REP_1970	Num	8	COMMA10. 1970_People per Representative
42	PEOPLE_PER_REP_1980	Num	8	COMMA10. 1980_People per Representative
43	PEOPLE_PER_REP_1990	Num	8	COMMA10. 1990_People per Representative
44	PEOPLE_PER_REP_2000	Num	8	COMMA10. 2000_People per Representative

Figure 1.106 *continued*

## Sashelp.us\_data --- Apportionment, Population Change, Population Density

## The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
45	PEOPLE_PER_REP_2010	Num	8	COMMA10. 2010_People per Representative
46	SEAT_CHANGE_1910	Num	8	1910_Seat Change
47	SEAT_CHANGE_1920	Num	8	1920_Seat Change
48	SEAT_CHANGE_1930	Num	8	1930_Seat Change
49	SEAT_CHANGE_1940	Num	8	1940_Seat Change
50	SEAT_CHANGE_1950	Num	8	1950_Seat Change
51	SEAT_CHANGE_1960	Num	8	1960_Seat Change
52	SEAT_CHANGE_1970	Num	8	1970_Seat Change
53	SEAT_CHANGE_1980	Num	8	1980_Seat Change
54	SEAT_CHANGE_1990	Num	8	1990_Seat Change
55	SEAT_CHANGE_2000	Num	8	2000_Seat Change
56	SEAT_CHANGE_2010	Num	8	2010_Seat Change
57	POPULATION_1910	Num	8	COMMA15. 1910_Population
58	POPULATION_1920	Num	8	COMMA15. 1920_Population
59	POPULATION_1930	Num	8	COMMA15. 1930_Population
60	POPULATION_1940	Num	8	COMMA15. 1940_Population
61	POPULATION_1950	Num	8	COMMA15. 1950_Population
62	POPULATION_1960	Num	8	COMMA15. 1960_Population
63	POPULATION_1970	Num	8	COMMA15. 1970_Population
64	POPULATION_1980	Num	8	COMMA15. 1980_Population
65	POPULATION_1990	Num	8	COMMA15. 1990_Population
66	POPULATION_2000	Num	8	COMMA15. 2000_Population
67	POPULATION_2010	Num	8	COMMA15. 2010_Population
68	CHANGE_1910	Num	8	1910_Population change expressed as %
69	CHANGE_1920	Num	8	1920_Population change expressed as %
70	CHANGE_1930	Num	8	1930_Population change expressed as %
71	CHANGE_1940	Num	8	1940_Population change expressed as %
72	CHANGE_1950	Num	8	1950_Population change expressed as %
73	CHANGE_1960	Num	8	1960_Population change expressed as %
74	CHANGE_1970	Num	8	1970_Population change expressed as %
75	CHANGE_1980	Num	8	1980_Population change expressed as %
76	CHANGE_1990	Num	8	1990_Population change expressed as %
77	CHANGE_2000	Num	8	2000_Population change expressed as %
78	CHANGE_2010	Num	8	2010_Population change expressed as %
79	STATE	Num	6	State Fips Code
80	STATECODE	Char	2	Two-letter Abbrev. for State Name
81	DIVISION	Char	18	US Divisions
82	REGION	Char	9	US Regions

Figure 1.106 continued

## The First Five Observations Out of 52

STATENAME	DENSITY_1910	DENSITY_1920	DENSITY_1930	DENSITY_1940	DENSITY_1950	DENSITY_1960	DENSITY_1970	DENSITY_1980
Alabama	42.2	46.4	52.3	55.9	60.5	64.5	6.8	76.9
Alaska	0.1	0.1	0.1	0.1	0.2	0.4	0.5	0.7

DENSITY_1990	DENSITY_2000	DENSITY_2010	RANK_1910	RANK_1920	RANK_1930	RANK_1940	RANK_1950	RANK_1960	RANK_1970
79.8	87.8	94.4	25	25	24	23	24	28	28
0.1	1.1	1.2	52	52	52	52	52	52	52

RANK_1980	RANK_1990	RANK_2000	RANK_2010	REPS_1910	REPS_1920	REPS_1930	REPS_1940	REPS_1950	REPS_1960	REPS_1970
28	27	28	29	10	10	9	9	9	8	7
52	52	52	52	.	.	.	.	.	1	1

REPS_1980	REPS_1990	REPS_2000	REPS_2010	PEOPLE_PER_REP_1910	PEOPLE_PER_REP_1920	PEOPLE_PER_REP_1930
7	7	7	7		213,809	0
1	1	1	1		.	.

PEOPLE_PER_REP_1940	PEOPLE_PER_REP_1950	PEOPLE_PER_REP_1960	PEOPLE_PER_REP_1970	PEOPLE_PER_REP_1980
314,773		340,194	408,343	496,555
.	.	.	226,167	304,067
				555,723
				400,481

PEOPLE_PER_REP_1990	PEOPLE_PER_REP_2000	PEOPLE_PER_REP_2010	SEAT_CHANGE_1910	SEAT_CHANGE_1920
580,373		637,304		686,140
				1
				0
551,947		628,933		721,523
				.

SEAT_CHANGE_1930	SEAT_CHANGE_1940	SEAT_CHANGE_1950	SEAT_CHANGE_1960	SEAT_CHANGE_1970	SEAT_CHANGE_1980
-1	0	0	-1	-1	0
.	.	.	1	0	0

SEAT_CHANGE_1990	SEAT_CHANGE_2000	SEAT_CHANGE_2010	POPULATION_1910	POPULATION_1920	POPULATION_1930
0	0	0	2,138,093	2,348,174	2,646,248
0	0	0	64,356	55,036	59,278

POPULATION_1940	POPULATION_1950	POPULATION_1960	POPULATION_1970	POPULATION_1980	POPULATION_1990
2,832,961	3,061,743	3,266,740	3,444,165	3,893,888	4,040,587
72,524	128,643	226,167	300,382	401,851	550,043

POPULATION_2000	POPULATION_2010	CHANGE_1910	CHANGE_1920	CHANGE_1930	CHANGE_1940	CHANGE_1950	CHANGE_1960
4,447,100	4,779,736	16.9	9.8	12.7	7.1	8.1	6.7
626,932	710,231	1.2	-14.5	7.7	22.3	77.4	75.8

CHANGE_1970	CHANGE_1980	CHANGE_1990	CHANGE_2000	CHANGE_2010	STATE	STATECODE	DIVISION	REGION
5.4	13.1	3.8	10.1	7.5	1	AL	East South Central	South
32.8	33.8	36.9	14.0	13.3	2	AK	Pacific	West

Figure 1.106 continued

The First Five Observations Out of 52

STATENAME	DENSITY_1910	DENSITY_1920	DENSITY_1930	DENSITY_1940	DENSITY_1950	DENSITY_1960	DENSITY_1970	DENSITY_1980
Arizona	1.8	2.9	3.8	4.4	6.6	11.5	15.6	23.9
Arkansas	30.3	33.7	35.6	37.5	36.7	34.3	3.7	43.9

DENSITY_1990	DENSITY_2000	DENSITY_2010	RANK_1910	RANK_1920	RANK_1930	RANK_1940	RANK_1950	RANK_1960	RANK_1970
32.3	45.2	56.3	49	49	47	47	47	43	43
45.2	51.4	5.6	30	31	32	32	34	36	37

RANK_1980	RANK_1990	RANK_2000	RANK_2010	REPS_1910	REPS_1920	REPS_1930	REPS_1940	REPS_1950	REPS_1960	REPS_1970
42	39	38	35	.	.	1	2	2	3	4
37	37	36	36	7	7	7	7	6	4	4

REPS_1980	REPS_1990	REPS_2000	REPS_2010	PEOPLE_PER_REP_1910	PEOPLE_PER_REP_1920	PEOPLE_PER_REP_1930
5	6	8	9	.	.	389,375
4	4	4	4	224,921	0	264,921

PEOPLE_PER_REP_1940	PEOPLE_PER_REP_1950	PEOPLE_PER_REP_1960	PEOPLE_PER_REP_1970	PEOPLE_PER_REP_1980
249,631	374,794	434,054	446,905	543,573
278,484	318,252	446,568	485,576	571,378

PEOPLE_PER_REP_1990	PEOPLE_PER_REP_2000	PEOPLE_PER_REP_2010	SEAT_CHANGE_1910	SEAT_CHANGE_1920
612,998	642,585	712,522	.	.
590,560	669,933	731,557	0	0

SEAT_CHANGE_1930	SEAT_CHANGE_1940	SEAT_CHANGE_1950	SEAT_CHANGE_1960	SEAT_CHANGE_1970	SEAT_CHANGE_1980
1	1	0	1	1	1
0	0	-1	-2	0	0

SEAT_CHANGE_1990	SEAT_CHANGE_2000	SEAT_CHANGE_2010	POPULATION_1910	POPULATION_1920	POPULATION_1930
1	2	1	204,354	334,162	435,573
0	0	0	1,574,449	1,752,204	1,854,482

POPULATION_1940	POPULATION_1950	POPULATION_1960	POPULATION_1970	POPULATION_1980	POPULATION_1990
499,261	749,587	1,302,161	1,770,900	2,718,215	3,665,228
1,949,387	1,909,511	1,786,272	1,923,295	2,286,435	2,350,725

POPULATION_2000	POPULATION_2010	CHANGE_1910	CHANGE_1920	CHANGE_1930	CHANGE_1940	CHANGE_1950	CHANGE_1960
5,130,632	6,392,017	66.2	63.5	30.3	14.6	50.1	73.7
2,673,400	2,915,918	20.0	11.3	5.8	5.1	-2.0	-6.5

CHANGE_1970	CHANGE_1980	CHANGE_1990	CHANGE_2000	CHANGE_2010	STATE	STATECODE	DIVISION	REGION
36.0	53.5	34.8	40.0	24.6	4	AZ	Mountain	West
7.7	18.9	2.8	13.7	9.1	5	AR	West South Central	South

Figure 1.106 continued

## The First Five Observations Out of 52

STATENAME	DENSITY_1910	DENSITY_1920	DENSITY_1930	DENSITY_1940	DENSITY_1950	DENSITY_1960	DENSITY_1970	DENSITY_1980		
California	15.3	2.2	36.4	44.3	6.8	100.9	128.1	151.9		
DENSITY_1990	DENSITY_2000	DENSITY_2010	RANK_1910	RANK_1920	RANK_1930	RANK_1940	RANK_1950	RANK_1960	RANK_1970	
19.1	217.4	239.1	38	35	31	30	22	15	15	
RANK_1980	RANK_1990	RANK_2000	RANK_2010	REPS_1910	REPS_1920	REPS_1930	REPS_1940	REPS_1950	REPS_1960	REPS_1970
16	14	14	13	11	11	20	23	30	38	43
REPS_1980	REPS_1990	REPS_2000	REPS_2010	PEOPLE_PER_REP_1910	PEOPLE_PER_REP_1920	PEOPLE_PER_REP_1930				
45	52	53	53	216,051	0	283,412				
PEOPLE_PER_REP_1940	PEOPLE_PER_REP_1950	PEOPLE_PER_REP_1960	PEOPLE_PER_REP_1970	PEOPLE_PER_REP_1980						
300,321	352,874	413,611	467,415	525,968						
PEOPLE_PER_REP_1990	PEOPLE_PER_REP_2000	PEOPLE_PER_REP_2010	SEAT_CHANGE_1910	SEAT_CHANGE_1920						
573,832	640,204	704,566	3	0						
SEAT_CHANGE_1930	SEAT_CHANGE_1940	SEAT_CHANGE_1950	SEAT_CHANGE_1960	SEAT_CHANGE_1970	SEAT_CHANGE_1980					
9	3	7	8	5	2					
SEAT_CHANGE_1990	SEAT_CHANGE_2000	SEAT_CHANGE_2010	POPULATION_1910	POPULATION_1920	POPULATION_1930					
7	1	0	2,377,549	3,426,861	5,677,251					
POPULATION_1940	POPULATION_1950	POPULATION_1960	POPULATION_1970	POPULATION_1980	POPULATION_1990					
6,907,387	10,586,223	15,717,204	19,953,134	23,667,902	29,760,021					
POPULATION_2000	POPULATION_2010	CHANGE_1910	CHANGE_1920	CHANGE_1930	CHANGE_1940	CHANGE_1950	CHANGE_1960			
33,871,648	37,253,956	60.1	44.1	65.7	21.7	53.3	48.5			
CHANGE_1970	CHANGE_1980	CHANGE_1990	CHANGE_2000	CHANGE_2010	STATE	STATECODE	DIVISION	REGION		
27.0	18.6	25.7	13.8	10.0	6 CA	Pacific	West			

## Sashelp.vbplayrs

The following steps display information about the data set Sashelp.vbplayrs and create Figure 1.107. The data set contains 11 observations.

```

title "Sashelp.vbplayrs";
proc contents data=sashelp.vbplayrs varnum;
  ods select position;
run;

title "The First Five Observations Out of 11";
proc print data=sashelp.vbplayrs (obs=5) noobs;
run;

title "The TUESDAY and FRIDAY Variables";
proc freq data=sashelp.vbplayrs;
  tables TUESDAY;
  tables FRIDAY;
run;

```

**Figure 1.107** Sashelp.vbplayrs

### Sashelp.vbplayrs

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	NAME	Char	18
2	EMAIL	Char	50
3	TUESDAY	Char	1
4	FRIDAY	Char	1

#### The First Five Observations Out of 11

NAME	EMAIL	TUESDAY	FRIDAY
John Doe	john_doe@acme.com	N	Y
Joe Smith	joe_smith@acme.com	N	Y
Becky Smith	becky_smith@acme.com	Y	Y
Charlie Thomas	charlie_thomas@acme.com	Y	N
Daniel Jones	daniel_jones@acme.com	N	Y

#### The TUESDAY and FRIDAY Variables

##### The FREQ Procedure

TUESDAY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
N	6	54.55	6	54.55
Y	5	45.45	11	100.00

**Figure 1.107** *continued*

FRIDAY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
N	4	36.36	4	36.36
Y	7	63.64	11	100.00



## Sashelp.vote1980 — US 1980 Presidential Election Data

The Sashelp.Vote1980 data set contains US county votes-cast proportions and demographic and geographic characteristics for 3,107 US counties in the 1980 presidential election (Pace and Barry 1997). The six explanatory variables are as follows: the population 18 years of age or older (Pop), the population with 12th-grade or higher education (Edu), the number of owned housing units (Houses), the aggregate income (Income), and scaled longitude and latitude of geographic centroids (Longitude, Latitude). The dependent variable LogVoteRate is the logarithm of the proportion of votes cast divided by the variable Pop. The following steps display information about the data set Sashelp.vote1980 and create Figure 1.108. The data set contains 3,107 observations.

```

title "Sashelp.vote1980 --- US 1980 Presidential Election Data";
proc contents data=sashelp.vote1980 varnum;
  ods select position;
run;

title "The First Five Observations Out of 3,107";
proc print data=sashelp.vote1980 (obs=5) noobs;
run;

```

**Figure 1.108** Sashelp.vote1980 — US 1980 Presidential Election Data

### Sashelp.vote1980 --- US 1980 Presidential Election Data

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len Label
1	LogVoteRate	Num	8 Log Votes Cast per County
2	Pop	Num	8 Population of 18 Years and Older
3	Edu	Num	8 Population with 12th Grade and Higher
4	Houses	Num	8 Number of Owned Housing Units
5	Income	Num	8 Aggregate Income
6	Longitude	Num	8 Scaled Longitude
7	Latitude	Num	8 Scaled Latitude

#### The First Five Observations Out of 3,107

LogVoteRate	Pop	Edu	Houses	Income	Longitude	Latitude
-0.66156	9.9729	9.2463	9.00405	12.1349	-0.86641	0.32542
-0.65086	10.9033	10.2212	9.96576	13.0566	-0.87755	0.30655
-0.61711	9.7222	8.7535	8.70765	11.6306	-0.85389	0.31863
-0.63907	9.2737	8.1831	8.27741	11.2437	-0.87127	0.32997
-0.70027	10.1515	9.2077	9.24068	12.1551	-0.86566	0.33980

## Sashelp.workers — Employment (Monthly: Jan77-Jul82)

The Sashelp.workers data set provides employment data (monthly: Jan77–Jul82). The following steps display information about the data set Sashelp.workers and create Figure 1.109. The data set contains 67 observations.

```

title "Sashelp.workers --- Employment (Monthly: Jan77-Jul82)";
proc contents data=sashelp.workers varnum;
    ods select position;
run;

title "The First Five Observations Out of 67";
proc print data=sashelp.workers (obs=5) noobs;
run;

```

**Figure 1.109** Sashelp.workers — Employment (Monthly: Jan77-Jul82)

### Sashelp.workers --- Employment (Monthly: Jan77-Jul82)

#### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	DATE	Num	8	MONYY5.
2	ELECTRIC	Num	8	electrical workers, thousands
3	MASONRY	Num	8	masonry workers, thousands

#### The First Five Observations Out of 67

DATE	ELECTRIC	MASONRY
JAN77	241.9	196.6
FEB77	239.3	216.3
MAR77	245.5	235.1
APR77	249.6	252.2
MAY77	255.7	261.5

---

## Sashelp.yr1001 — M-Competition 1001 Series, Annual

The Sashelp.yr1001 data set provides *m*-competition 1001 series, annual. These data are not displayed because of the number of variables.

---

## Sashelp.yr111 — M-Competition 111 Series, Annual

The Sashelp.yr111 data set provides *m*-competition 111 series, annual. The following steps display information about the data set Sashelp.yr111 and create [Figure 1.110](#). The data set contains 126 observations.

```
title "Sashelp.yr111 --- M-Competition 111 Series, Annual";
proc contents data=sashelp.yr111 varnum;
    ods select position;
run;
```

```
title "The First Five Observations Out of 126";
proc print data=sashelp.yr111(obs=5) noobs;
run;
```

**Figure 1.110** Sashelp.yr111 — M-Competition 111 Series, Annual  
**Sashelp.yr111 --- M-Competition 111 Series, Annual**

**The CONTENTS Procedure**

Variables in Creation Order			
#	Variable	Type	Len
1	T	Num	4
2	S004	Num	5
3	S013	Num	5
4	S022	Num	5
5	S031	Num	5
6	S040	Num	5
7	S049	Num	5
8	S058	Num	5
9	S067	Num	5
10	S076	Num	5
11	S085	Num	5
12	S094	Num	5
13	S103	Num	5
14	S112	Num	5
15	S121	Num	5
16	S130	Num	5
17	S139	Num	5
18	S148	Num	5
19	S157	Num	5
20	S166	Num	5
21	S175	Num	5
22	S193	Num	5
23	S202	Num	5
24	S211	Num	5
25	S220	Num	5
26	S247	Num	5
27	S256	Num	5
28	S265	Num	5
29	S274	Num	5
30	S283	Num	5
31	S310	Num	5
32	S319	Num	5
33	S346	Num	5
34	S355	Num	5
35	S373	Num	5
36	S400	Num	5
37	S517	Num	5
38	S535	Num	5
39	S553	Num	5
40	S679	Num	5
41	S724	Num	5
42	S778	Num	5
43	S805	Num	5

Figure 1.110 continued

Sashelp.yr111 --- M-Competition 111 Series, Annual

The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
44	S814	Num	5
45	S823	Num	5
46	S832	Num	5
47	S886	Num	5
48	S895	Num	5
49	S922	Num	5
50	S949	Num	5
51	S967	Num	5
52	S976	Num	5

The First Five Observations Out of 126

T	S004	S013	S022	S031	S040	S049	S058	S067	S076	S085	S094	S103	S112	S121	S130	S139	S148
1	5774	263	2.56817	77.200	6180	12031	67.500	149020	27.6000	60.700	35.9200	191562	474.000	4.40000	14.3800	18654	331
2	7650	992	2.58339	130.500	6555	20306	62.300	154580	29.4000	91.100	38.0600	206884	486.900	4.60000	13.8100	20651	376
3	9271	437	2.60319	136.200	6533	25513	112.400	155500	26.4000	106.200	44.0500	217342	484.000	4.80000	12.3000	20216	494
4	21447	35	2.62582	108.900	6692	35766	175.500	154470	24.5000	112.200	45.4900	230677	490.500	5.00000	11.9200	21503	630
5	28998	55	2.63720	109.900	6940	37868	238.800	160120	28.7000	120.100	41.4500	237258	503.000	5.20000	12.1800	20552	645

S157	S166	S175	S193	S202	S211	S220	S247	S256	S265	S274	S283	S310	S319	S346	S355	S373	S400	S517
372	24.7000	307198	205	101802	489	1259	152.200	103.200	1473	11.1000	82.0000	2777	51.1900	20	119	60	155	8605
392	25.0000	305958	219	98612	698	2202	152.500	105.300	1435	14.0000	81.8000	2827	56.6400	21	113	90	155	12337
376	24.7000	310322	198	108001	861	3071	154.700	107.200	1509	15.9000	81.4000	2864	56.9600	23	110	104	159	11647
386	24.9000	310311	226	105627	958	2732	157.600	108.500	1689	17.1000	81.1000	2924	60.4100	24	105	101	159	9730
401	25.0000	308746	234	103518	461	3836	161.300	110.900	1850	14.9000	80.7000	2980	60.8700	27	98	78	157	9462

S535	S553	S679	S724	S778	S805	S814	S823	S832	S886	S895	S922	S949	S967	S976
8.20000	613	73	1677	108.100	77123	118.500	184.300	112.460	102.900	103.100	1361	2131	3.00000	605
7.90000	696	144	1829	110.600	77347	118.100	185.900	112.990	103.000	101.700	1278	1910	2.80000	598
9.60000	402	149	1998	111.600	78986	117.400	186.500	114.280	111.600	105.000	1443	2486	2.80000	593
8.60000	285	155	1903	112.200	79429	119.400	185.500	114.890	120.300	107.100	1524	1953	2.90000	585
9.39999	1215	147	1880	117.200	79241	118.500	187.000	115.580	123.900	115.700	1483	1927	2.90000	582

## Sashelp.zh

The Sashelp.zh data set provides DBCS translation tables. ZH is for Chinese. The following steps display information about the data set Sashelp.zh and create [Figure 1.111](#). The data set contains 7,445 observations.

```

title "Sashelp.zh";
proc contents data=sashelp.zh varnum;
    ods select position;
run;

title "The First Five Observations Out of 7,445";
proc print data=sashelp.zh(obs=5) noobs;
run;

```

**Figure 1.111** Sashelp.zh

### Sashelp.zh

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	unicode	Char	6
2	ibm	Char	4
3	pcms	Char	4

#### The First Five Observations Out of 7,445

unicode	ibm	pcms
U+3000	4040	A1A1
U+3001	4344	A1A2
U+3002	4341	A1A3
U+30FB	4345	A1A4
U+02C9	4545	A1A5

## Sashelp.zipcode — US ZIP Codes; Source: Zipcodedownload.com Jan 2017

The Sashelp.zipcode data set provides US ZIP codes. The following steps display information about the data set Sashelp.zipcode and create [Figure 1.112](#). The data set contains 41,140 observations.

```

title "Sashelp.zipcode --- US ZIP Codes; Source: Zipcodedownload.com Jan 2017";
proc contents data=sashelp.zipcode varnum;
  ods select position;
run;

title "The First Five Observations Out of 41,140";
proc print data=sashelp.zipcode(obs=5) noobs;
run;

```

**Figure 1.112** Sashelp.zipcode — US ZIP Codes; Source: Zipcodedownload.com Jan 2017  
Sashelp.zipcode --- US ZIP Codes; Source: Zipcodedownload.com Jan 2017

### The CONTENTS Procedure

Variables in Creation Order				
#	Variable	Type	Len	Format Label
1	ZIP	Num	8	Z5. The 5-digit ZIP Code
2	X	Num	8	11.6 Longitude (degrees) of the center (centroid) of ZIP Code.
3	Y	Num	8	11.6 Latitude (degrees) of the center (centroid) of ZIP Code.
4	ZIP_CLASS	Char	1	ZIP Code Classification:P=PO Box U=Unique zip used for large orgs/businesses/bldgs Blank=Standard/non-unique
5	CITY	Char	35	Name of city/org
6	STATE	Num	8	Two-digit number (FIPS code) for state/territory
7	STATECODE	Char	2	Two-letter abbrev. for state name.
8	STATENAME	Char	25	Full name of state/territory
9	COUNTY	Num	8	FIPS county code.
10	COUNTYNM	Char	25	Name of county/parish.
11	MSA	Num	8	Metro Statistical Area code by common pop-pre 2003; no MSA for rural
12	AREACODE	Num	8	Single Area Code for ZIP Code.
13	AREACODES	Char	12	Multiple Area Codes for ZIP Code.
14	TIMEZONE	Char	9	Time Zone for ZIP Code.
15	GMTOFFSET	Num	8	Diff (hrs) between GMT and time zone for ZIP Code
16	DST	Char	1	ZIP Code obeys Daylight Savings: Y-Yes N-No
17	PONAME	Char	35	USPS Post Office Name: same as City
18	ALIAS_CITY	Char	300	USPS - alternate names of city separated by
19	ALIAS_CITYN	Char	300	Local - alternate names of city separated by
20	CITY2	Char	35	Clean CITY name for geocoding
21	STATENAME2	Char	25	Clean STATENAME for geocoding

Figure 1.112 continued

The First Five Observations Out of 41,140

ZIP	X	Y	ZIP_CLASS	CITY	STATE	STATECODE	STATENAME	COUNTY	COUNTYNM	MSA	AREACODE
00501	-73.046388	40.813078	U	Holtsville	36	NY	New York	103	Suffolk	5380	631
00544	-73.049288	40.813223	U	Holtsville	36	NY	New York	103	Suffolk	5380	631
00601	-66.723627	18.165950		Adjuntas	72	PR	Puerto Rico	1	Adjuntas	0	787
00602	-67.186553	18.383005		Aguada	72	PR	Puerto Rico	3	Aguada	60	787
00603	-67.151954	18.433236		Aguadilla	72	PR	Puerto Rico	5	Aguadilla	60	787

AREACODES	TIMEZONE	GMTOFFSET	DST	PONAME	ALIAS_CITY	ALIAS_CITYN	CITY2
631	Eastern	-5	Y	Holtsville			HOLTSVILLE
631	Eastern	-5	Y	Holtsville			HOLTSVILLE
787/939	Atlantic	-4	N	Adjuntas	Colinas Del Gigante  Jard de Adjuntas  Urb San Joaquin		ADJUNTAS
787/939	Atlantic	-4	N	Aguada	Alts de Aguada  Bo Guaniquilla  Comunidad Las Flores  Ext Los Robles  Sect Juan Ramirez  Sect La Ceiba  Sect Mariano Concepcion  Urb Isabel la Catolica		AGUADA
787/939	Atlantic	-4	N	Aguadilla	Ramey	Bda Caban  Bda Esteves  Bo Borinquen  Bo Ceiba Baja  Brisas Del Paraiso  Ext El Prado  Ext Marbella  Repto Jimenez  Repto Juan Aguiar  Repto Lopez  Repto Tres Palmas  Sect Las Villas  Urb Borinquen  Urb El Prado  Urb Esteves  Urb Garcia  Urb Las Americas  Urb Las Casitas Country Club  Urb Maleza Gdn	AGUADILLA

**STATENAME2**

NEWYORK

NEWYORK

PUERTORICO

PUERTORICO

PUERTORICO



## Sashelp.zipmil — US Military ZIP Codes-Lat/Long, NA Assigned Missing

The Sashelp.zipmil data set provides US military ZIP codes. The following steps display information about the data set Sashelp.zipmil and create [Figure 1.113](#). The data set contains 560 observations.

```

title "Sashelp.zipmil --- US Military ZIP Codes-Lat/Long, NA Assigned Missing";
proc contents data=sashelp.zipmil varnum;
  ods select position;
run;

title "The First Five Observations Out of 560";
proc print data=sashelp.zipmil(obs=5) noobs;
run;

```

**Figure 1.113** Sashelp.zipmil — US Military ZIP Codes-Lat/Long, NA Assigned Missing  
**Sashelp.zipmil --- US Military ZIP Codes-Lat/Long, NA Assigned Missing**

### The CONTENTS Procedure

Variables in Creation Order				
# Variable	Type	Len	Format	Label
1 ZIP	Num	8	Z5.	The 5-digit ZIP Code
2 X	Num	8	11.6	Longitude (degrees) of the center (centroid) of ZIP Code.
3 Y	Num	8	11.6	Latitude (degrees) of the center (centroid) of ZIP Code.
4 ZIP_CLASS	Char	1		ZIP Code Classification:P=PO Box U=Unique zip used for large orgs/businesses/bldgs Blank=Standard/non-unique
5 CITY	Char	35		Name of city/org
6 STATE	Num	8		Two-digit number (FIPS code) for state/territory
7 STATECODE	Char	2		Two-letter abbrev. for state name.
8 STATENAME	Char	25		Full name of state/territory
9 COUNTY	Num	8		FIPS county code.
10 COUNTYNM	Char	25		Name of county/parish.
11 MSA	Num	8		Metro Statistical Area code by common pop-pre 2003; no MSA for rural
12 AREACODE	Num	8		Single Area Code for ZIP Code.
13 AREACODES	Char	12		Multiple Area Codes for ZIP Code.
14 TIMEZONE	Char	9		Time Zone for ZIP Code.
15 GMTOFFSET	Num	8		Diff (hrs) between GMT and time zone for ZIP Code
16 DST	Char	1		ZIP Code obeys Daylight Savings: Y-Yes N-No
17 PONAME	Char	35		USPS Post Office Name: same as City
18 ALIAS_CITY	Char	300		USPS - alternate names of city separated by
19 ALIAS_CITYN	Char	300		Local - alternate names of city separated by
20 CITY2	Char	35		Clean CITY name for geocoding
21 STATENAME2	Char	25		Clean STATENAME for geocoding

Figure 1.113 continued

The First Five Observations Out of 560

ZIP	X	Y	ZIP_CLASS	CITY	STATE	STATECODE	STATENAME	COUNTY	COUNTYNM	MSA	AREACODE
09001	.	.	M	DPO	36	NY	New York	.	none	.	.
09003	.	.	M	APO	36	NY	New York	.	none	.	.
09004	.	.	M	APO	36	NY	New York	.	none	.	.
09005	.	.	M	APO	36	NY	New York	.	none	.	.
09006	.	.	M	APO	36	NY	New York	.	none	.	.

AREACODES	TIMEZONE	GMTOFFSET	DST	PONAME	ALIAS_CITY	ALIAS_CITYN	CITY2	STATENAME2
.	N			DPO	Diplomatic Post Office		DPO	NEWYORK
.	N			APO	Army Post Office		APO	NEWYORK
.	N			APO	Army Post Office		APO	NEWYORK
.	N			APO	Army Post Office		APO	NEWYORK
.	N			APO	Army Post Office		APO	NEWYORK

## Sashelp.zt

The Sashelp.zt data set provides DBCS translation tables. ZT is for traditional Chinese. The following steps display information about the data set Sashelp.zt and create Figure 1.114. The data set contains 13,459 observations.

```

title "Sashelp.zt";
proc contents data=sashelp.zt varnum;
    ods select position;
run;

title "The First Five Observations Out of 13,459";
proc print data=sashelp.zt(obs=5) noobs;
run;

```

**Figure 1.114** Sashelp.zt

### Sashelp.zt

#### The CONTENTS Procedure

Variables in Creation Order			
#	Variable	Type	Len
1	unicode	Char	6
2	euc	Char	4
3	ibm	Char	4
4	hp15	Char	4
5	pcibm	Char	4
6	pcms	Char	4

#### The First Five Observations Out of 13,459

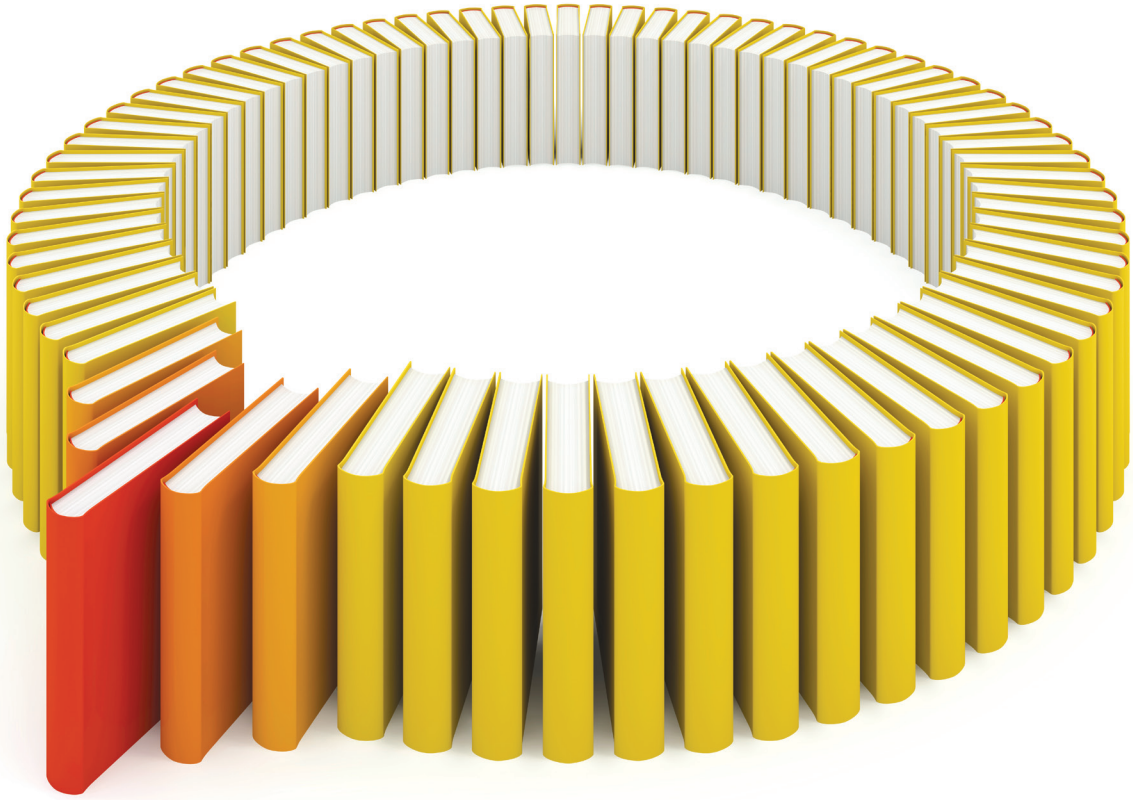
unicode	euc	ibm	hp15	pcibm	pcms
U+3000	A1A1	4040	F5D1	8140	A140
U+FF0C	A1A2	426B	F5DD	8143	A141
U+3001	A1A3	4344	2020	8141	A142
U+3002	A1A4	4341	2020	8142	A143
U+FF0E	A1A5	424B	2020	8144	A144

---

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