Unit 1-11 Exercises

1. Specifying Titles, Footnotes, and System Options

a. Retrieve the starter program **p111e01**.

b. Use the OPTIONS statement to establish these system options for the PROC MEANS report:

1) Suppress the page numbers that appear at the top of each output page.

2) Suppress the date and time that appear at the top of each output page.

3) Limit the number of lines per page to 18 for the report. Reset the option value to 52 after the PROC MEANS step finishes.

c. Specify the following title for the report: **`Orion Star Sales Report`**.

d. Specify the following footnote for the report: **`Report by SAS Programming Student`**.

e. After the PROC MEANS step finishes, cancel the footnote.

f. Submit the program to create the following PROC MEANS report:

PROC MEANS Output

```
                          Orion Star Sales Report

                            The MEANS Procedure

Analysis Variable : Total_Retail_Price Total Retail Price for This Product

     N            Mean         Std Dev         Minimum         Maximum
-------------------------------------------------------------------------
   617     162.2001053     233.8530183       2.6000000         1937.20
-------------------------------------------------------------------------




                       Report by SAS Programming Student
```

2. Specifying Multiple Titles and System Options

a. Retrieve the starter program **p111e02**.

b. Limit the number of lines per page to 18 and then reset that option to 52 after both reports are complete.

c. Request that each report contain page numbers starting at 1.

d. Request that the **current** date and time be displayed at the top of each page; not the date and time that the SAS session began.

e. Specify the following title to appear in both reports: **`Orion Star Sales Analysis`**.

f. Specify a secondary title to appear in the first report with a blank line between the titles:

```
Catalog Sales Only
```

g. Specify the following footnote for the first report:

```
Based on the previous day's posted data
```

h. Specify a secondary title to appear in the second report with a blank line between the titles:

```
Internet Sales Only
```

i. Cancel all footnotes for the second report.

j. Submit the program to create the following PROC MEANS reports:

PROC MEANS Output

```
                          Orion Star Sales Analysis                          1
                                                  16:30 Monday, January 28, 2008
                              Catalog Sales Only

                             The MEANS Procedure

Analysis Variable : Total_Retail_Price Total Retail Price for This Product

     N            Mean         Std Dev         Minimum         Maximum
-------------------------------------------------------------------------
   170     199.5961765     282.9680817       2.6000000         1937.20
-------------------------------------------------------------------------




                    Based on the previous day's posted data
```

```
                          Orion Star Sales Analysis                          1
                                                  16:30 Monday, January 28, 2008
                              Internet Sales Only

                             The MEANS Procedure

Analysis Variable : Total_Retail_Price Total Retail Price for This Product

     N            Mean         Std Dev         Minimum         Maximum
-------------------------------------------------------------------------
   123     174.7280488     214.3528338       2.7000000         1542.60
-------------------------------------------------------------------------
```

3. Inserting Dates and Times into Titles

a. Use the OPTIONS procedure to verify that the date and time will not be automatically displayed at the top of each page. If the option is not set correctly, change it.

Documentation about the OPTIONS procedure can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **Base SAS 9.3 Procedures Guide** ⇨ **Procedures** ⇨ **The OPTIONS Procedure**). Look for an option in the PROC OPTIONS statement that can display the current setting of a single option.

b. Retrieve the starter program **p111e03**.

c. Add a title with the following text, substituting the current date and time:

```
Sales Report as of 4:57 PM on Monday, January 28, 2008
```

d. Submit the program to create the following report:

PROC MEANS Output

```
                Sales Report as of 4:57 PM on Monday, January 28, 2008

                                The MEANS Procedure

        Analysis Variable : Total_Retail_Price Total Retail Price for This Product

             N            Mean         Std Dev         Minimum         Maximum
        ------------------------------------------------------------------------
           617      162.2001053     233.8530183       2.6000000         1937.20
        ------------------------------------------------------------------------
```

4. Applying Labels and Formats in Reports

a. Retrieve the starter program **p111e04**.

b. Modify the column heading for each variable as shown in the sample output that follows.

c. Display all dates in the form ddMONyyyy. If you are running SAS 9.3, specify a width of **11** for the format to obtain the hyphens as shown in the sample output that follows. Otherwise, use a width of **9**; the hyphens will not appear.

d. Display each salary with dollar signs, commas, and two decimal places as shown in the sample output that follows. No salary in the data set exceeds $500,000.

e. Submit the program to produce the following report:

Partial PROC PRINT Output

Employees with 3 Dependents

Obs	Employee Number	Annual Salary	Birth Date	Hire Date	Termination Date
9	120109	$26,495.00	15-DEC-1986	01-OCT-2006	.
11	120111	$26,895.00	23-JUL-1949	01-NOV-1974	.
12	120112	$26,550.00	17-FEB-1969	01-JUL-1990	.
14	120114	$31,285.00	08-FEB-1944	01-JAN-1974	.
18	120118	$28,090.00	03-JUN-1959	01-JUL-1984	.
20	120120	$27,645.00	05-MAY-1944	01-JAN-1974	.
23	120123	$26,190.00	28-SEP-1964	01-OCT-1985	31-JAN-2005
35	120135	$32,490.00	26-JAN-1969	01-OCT-1997	30-APR-2004
47	120147	$26,580.00	19-JAN-1988	01-OCT-2006	.
51	120151	$26,520.00	21-NOV-1944	01-JAN-1974	.

5. Overriding Existing Labels and Formats

a. Retrieve the starter program **p111e05**.

b. Display only the year portion of the birth dates.

c. Display only the first initial of each customer's first name. Display the entire last name.

d. Show the customer's ID with exactly six digits, including leading zeros if necessary.

Documentation on SAS formats can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **SAS 9.3 Language Reference: Dictionary** ⇨ **Dictionary of Language Elements** ⇨ **Formats** ⇨ **Formats by Category**). Look for a numeric format that writes standard numeric data with leading zeros.

e. Modify the column heading for each variable as shown in the sample output that follows. Be sure that the column header for the customer's last name is also split into two lines.

f. Submit the program to produce the following report:

Partial PROC PRINT Output

Customers from Turkey

Obs	Customer ID	First Initial	Last Name	Birth Year
47	000544	A	Argac	1964
48	000908	A	Umran	1979
49	000928	B	Urfalioglu	1969
50	001033	S	Okay	1979
51	001100	A	Canko	1964
52	001684	C	Aydemir	1974
55	002788	S	Yucel	1944

6. Applying Permanent Labels and Formats

a. Retrieve the starter program **p111e06**.

b. Add permanent variable labels and formats to the **`Work.otherstatus`** data set so that those attributes need not be repeated in subsequent steps.

1) Variable labels:

- **`Employee_ID`** `Employee Number`
- **`Employee_Hire_Date`** `Hired`

2) The format for **`Employee_Hire_Date`** should be displayed in the yyyy.mm.dd form.

Documentation on SAS formats can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **SAS 9.3 Language Reference: Dictionary** ⇨ **Dictionary of Language Elements** ⇨ **Formats** ⇨ **Formats by Category**). Look for a date format that satisfies the requirements noted above.

c. Override the permanent attributes within the PROC FREQ step so that the hire dates are grouped by calendar quarter in the form yyyyQq and the report explicitly states that the counts are by quarter as shown in the sample output that follows.

Documentation on SAS formats can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **SAS 9.3 Language Reference: Dictionary** ⇨ **Dictionary of Language Elements** ⇨ **Formats** ⇨ **Formats by Category**). Look for a date format that satisfies the requirements noted above.

d. Submit the program to produce the following reports. Verify that the variable attributes appear in the PROC CONENTS output.

Partial PROC PRINT Output

Employees who are listed with Marital Status=O

Obs	Employee Number	Hired
1	120102	1989.06.01
2	120117	1986.04.01
3	120126	2006.08.01
4	120145	1985.06.01
5	120149	1993.01.01

Partial PROC CONTENTS Output

Employees who are listed with Marital Status=O

The CONTENTS Procedure

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
2	Employee_Hire_Date	Num	8	YYMMDDP10.	Hired
1	Employee_ID	Num	8	12.	Employee Number

Partial PROC FREQ Output

Employees who are listed with Marital Status=O

The FREQ Procedure

Quarter Hired

Employee_ Hire_Date	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1974Q1	5	12.50	5	12.50
1976Q3	1	2.50	6	15.00
1978Q4	1	2.50	7	17.50
1981Q1	1	2.50	8	20.00
1981Q3	1	2.50	9	22.50

7. Creating User-Defined Formats

a. Retrieve the starter program **p111e07**.

b. Create a character format named **$gender** that displays gender codes as follows:

F	Female
M	Male

c. Create a numeric format named **moname** that displays month numbers as follows:

1	January
2	February
3	March

d. In the PROC FREQ step, apply these two user-defined formats to the **Employee_Gender** and **BirthMonth** variables, respectively.

e. Submit the program to produce the following report:

PROC FREQ Output

Employees with Birthdays in Q1

The FREQ Procedure

Birth Month	Frequency	Percent	Cumulative Frequency	Cumulative Percent
January	44	38.94	44	38.94
February	34	30.09	78	69.03
March	35	30.97	113	100.00

Employee_ Gender	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Female	52	46.02	52	46.02
Male	61	53.98	113	100.00

8. Defining Ranges in User-Defined Formats

a. Retrieve the starter program **p111e08**.

b. Create a character format named **$gender** that displays gender codes as follows:

F	Female
M	Male
Any other value	Invalid code

c. Create a numeric format named **salrange** that displays salary ranges as follows:

At least 20,000 but less than 100,000	Below $100,000
At least 100,000 and up to 500,000	$100,000 or more
missing	Missing salary
Any other value	Invalid salary

d. In the PROC PRINT step, apply these two user-defined formats to the **Gender** and **Salary** variables, respectively.

e. Submit the program to produce the following report:

Partial PROC PRINT Output

Distribution of Salary and Gender Values
for Non-Sales Employees

Obs	Employee_ID	Job_Title	Salary	Gender
1	120101	Director	$100,000 or more	Male
2	120104	Administration Manager	Below $100,000	Female
3	120105	Secretary I	Below $100,000	Female
4	120106	Office Assistant II	Missing salary	Male
5	120107	Office Assistant III	Below $100,000	Female
6	120108	Warehouse Assistant II	Below $100,000	Female
7	120108	Warehouse Assistant I	Below $100,000	Female
8	120110	Warehouse Assistant III	Below $100,000	Male
9	120111	Security Guard II	Below $100,000	Male
10	120112		Below $100,000	Female
11	120113	Security Guard II	Below $100,000	Female
12	120114	Security Manager	Below $100,000	Invalid code
13	120115	Service Assistant I	Invalid salary	Male

9. Creating a Nested Format Definition

a. Retrieve the starter program **p111e09**.

b. Create a user-defined format that displays date ranges as follows:

Dates through 31DEC2006	Apply the YEAR4. format.
Dates starting 01JAN2007	Apply the MONYY7. format.
missing	Display the text **`None`**.

Documentation about the FORMAT procedure can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **Base SAS 9.3 Procedures Guide** ⇨ **Procedures** ⇨ **The FORMAT Procedure**). The documentation for the VALUE statement describes how to use an existing format as the label for a range.

c. Apply the new format to the **`Employee_Term_Date`** variable in the PROC FREQ step.

d. Submit the program to produce the following report:

An option is required in the TABLES statement in order to display missing values as part of the main frequency report. Documentation about the FREQ procedure can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **Base SAS Procedures Guide: Statistical Procedures** ⇨ **The FREQ Procedure**).

PROC FREQ Output

Employee Status Report

The FREQ Procedure

Employee_ Term_Date	Frequency	Percent	Cumulative Frequency	Cumulative Percent
None	308	72.64	308	72.64
2002	6	1.42	314	74.06
2003	29	6.84	343	80.90
2004	18	4.25	361	85.14
2005	21	4.95	382	90.09
2006	20	4.72	402	94.81
JAN2007	3	0.71	405	95.52
FEB2007	3	0.71	408	96.23
MAR2007	7	1.65	415	97.88
APR2007	3	0.71	418	98.58
MAY2007	4	0.94	422	99.53
JUN2007	2	0.47	424	100.00

10. Subsetting and Grouping Observations

a. Retrieve the starter program **p111e10**.

b. Add a PROC SORT step to sort the observations in **orion.order_fact** based on the **Order_Type** variable.

To avoid overwriting the **orion.order_fact** data set, be sure to use the OUT= option to create a new data set containing the sorted observations. Remember to use the new data set in the PROC MEANS step.

c. Restrict the PROC MEANS analysis to two **Order_Type** values: 2 and 3.

d. Modify the PROC MEANS step to generate the summary analysis separately for each selected **Order_Type** value in the sorted data set.

e. Submit the program to produce the following output:

PROC MEANS Output

```
                                Orion Star Sales Summary

---------------------------------------- Order Type=2 ----------------------------------------

                                  The MEANS Procedure

          Analysis Variable : Total_Retail_Price Total Retail Price for This Product

               N            Mean         Std Dev         Minimum         Maximum
               ------------------------------------------------------------------
               170     199.5961765     282.9680817       2.6000000         1937.20
               ------------------------------------------------------------------


---------------------------------------- Order Type=3 ----------------------------------------

          Analysis Variable : Total_Retail_Price Total Retail Price for This Product

               N            Mean         Std Dev         Minimum         Maximum
               ------------------------------------------------------------------
               123     174.7280488     214.3528338       2.7000000         1542.60
               ------------------------------------------------------------------
```

11. Subsetting and Grouping by Multiple Variables

a. Retrieve the starter program **p111e11**.

b. Sort the **`orion.order_fact`** data set by **`Order_Type`** (in ascending sequence) and **`Order_Date`** (in descending sequence).

c. Divide the PROC PRINT report based on **`Order_Type`** using a BY statement. The orders for each order type should be displayed in reverse chronological order, that is, with more recent orders near the top of the report.

d. Limit the observations in the PROC PRINT report based on the following criteria:

1) Orders placed in the first four months of 2005 (January 1 to April 30)

2) Orders that were delivered exactly two days after the order was placed

e. Add a second title to clarify that filters were applied to the data.

f. Submit the program to produce the following report:

PROC PRINT Output

Orion Star Sales Details
2-Day Deliveries from January to April 2005

Order Type=2

Obs	Order_ID	Order_ Date	Delivery_ Date
409	1235611754	27APR2005	29APR2005
410	1235611754	27APR2005	29APR2005
411	1235591214	25APR2005	27APR2005
412	1235591214	25APR2005	27APR2005
413	1234972570	24FEB2005	26FEB2005
415	1234659163	24JAN2005	26JAN2005
417	1234588648	17JAN2005	19JAN2005
418	1234588648	17JAN2005	19JAN2005
419	1234538390	12JAN2005	14JAN2005

Order Type=3

Obs	Order_ID	Order_ Date	Delivery_ Date
568	1235176942	15MAR2005	17MAR2005
569	1235176942	15MAR2005	17MAR2005
570	1234891576	16FEB2005	18FEB2005

12. Adding Subsetting Conditions

a. Retrieve the starter program **p111e12**.

b. Reorder the variables in the PROC PRINT step's BY statement so that the BY-line displays **`Supplier_Name`**, **`Supplier_ID`**, and **`Supplier_Country`**, in that order. The input data remains grouped, but not sorted, by these variables.

An option must be added to the BY statement to support the use of grouped, unsorted data. Documentation about the BY statement can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **Base SAS 9.3 Procedures Guide** ⇨ **Procedures** ⇨ **The PRINT Procedure**).

c. Augment the existing WHERE criteria by further restricting the report to product names that contain either the word `Street` or the word `Running`.

To add clauses to an existing WHERE statement without retyping or editing it, use the SAME-AND operator in a separate WHERE statement within the same step.
See the documentation in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **SAS 9.3 Language Reference: Concepts** ⇨ **SAS System Concepts** ⇨ **WHERE-Expression Processing** ⇨ **Syntax of WHERE Expression**).

d. Submit the program to produce the following report:

Partial PROC PRINT Output

```
                            Orion Star Products: Children Sports

---------- Supplier Name=Greenline Sports Ltd Supplier ID=14682 Country=Great Britain ----------

                        Obs      Product_ID           Product_Name

                         50    210200600015    Hardcore Kids Street Shoes


--------------- Supplier Name=3Top Sports Supplier ID=2963 Country=United States ---------------

                  Obs      Product_ID    Product_Name

                   87    210201000169    Children's Street Shoes
                   88    210201000174    Freestyle Children's Leather Street Shoes
                   91    210201000179    K Street Shoes
                   94    210201000187    Mona  C- Children's Street Shoes
                   95    210201000189    Mona  J- Children's Street Shoes
                  104    210201000205    Torino 2000 K Street Shoes
                  107    210201000209    Universe 4 Children's Running Shoes
```

13. Directing Output to the PDF and RTF Destinations

a. Retrieve the starter program **p111e13**.

b. Create the PDF version of the PROC PRINT report by adding ODS statements.

You can name the resulting PDF file p111s13.pdf.

c. Submit the program to produce the following report in PDF form as displayed in Adobe Reader:

Partial PROC PRINT Output

Customer Information

Obs	Customer_ID	Country	Gender	Personal_ID	Customer_Name	Customer_FirstName
1	4	US	M		James Kvarniq	James
2	5	US	F		Sandrina Stephano	Sandrina
3	9	DE	F		Cornelia Krahl	Cornelia
4	10	US	F		Karen Ballinger	Karen
5	11	DE	F		Elke Wallstab	Elke
6	12	US	M		David Black	David
7	13	DE	M		Markus Sepke	Markus
8	16	DE	M		Ulrich Heyde	Ulrich
9	17	US	M		Jimmie Evans	Jimmie
10	18	US	M		Tonie Asmussen	Tonie
11	19	DE	M		Oliver S. Fußling	Oliver S.
12	20	US	M		Michael Dineley	Michael
13	23	US	M		Tulio Devereaux	Tulio
14	24	US	F		Robyn Klem	Robyn
15	27	US	F		Cynthia Mccluney	Cynthia
16	29	AU	F		Candy Kinsey	Candy

Obs	Customer_LastName	Birth_Date	Customer_Address	Street_ID	Street_Number	Customer_Type_ID
1	Kvarniq	27JUN1974	4382 Gralyn Rd	9260106519	4382	1020
2	Stephano	09JUL1979	6468 Cog Hill Ct	9260114570	6468	2020
3	Krahl	27FEB1974	Kallstadterstr. 9	3940106659	9	2020
4	Ballinger	18OCT1984	425 Bryant Estates Dr	9260129395	425	1040
5	Wallstab	16AUG1974	Carl-Zeiss-Str. 15	3940108592	15	1040
6	Black	12APR1969	1068 Haithcock Rd	9260103713	1068	1030
7	Sepke	21JUL1988	Iese 1	3940105189	1	2010
8	Heyde	16JAN1939	Oberstr. 61	3940105865	61	3010
9	Evans	17AUG1954	391 Greywood Dr	9260123306	391	1030
10	Asmussen	02FEB1954	117 Langtree Ln	9260112361	117	1020
11	Fußling	23FEB1964	Hechtsheimerstr. 18	3940106547	18	2030
12	Dineley	17APR1959	2187 Draycroft Pl	9260118934	2187	1030
13	Devereaux	02DEC1949	1532 Ferdilah Ln	9260126679	1532	3010
14	Klem	02JUN1959	435 Cambrian Way	9260115784	435	3010
15	Mccluney	15APR1969	188 Grassy Creek Pl	9260105670	188	3010
16	Kinsey	08JUL1934	21 Hotham Parade	1600103020	21	3010

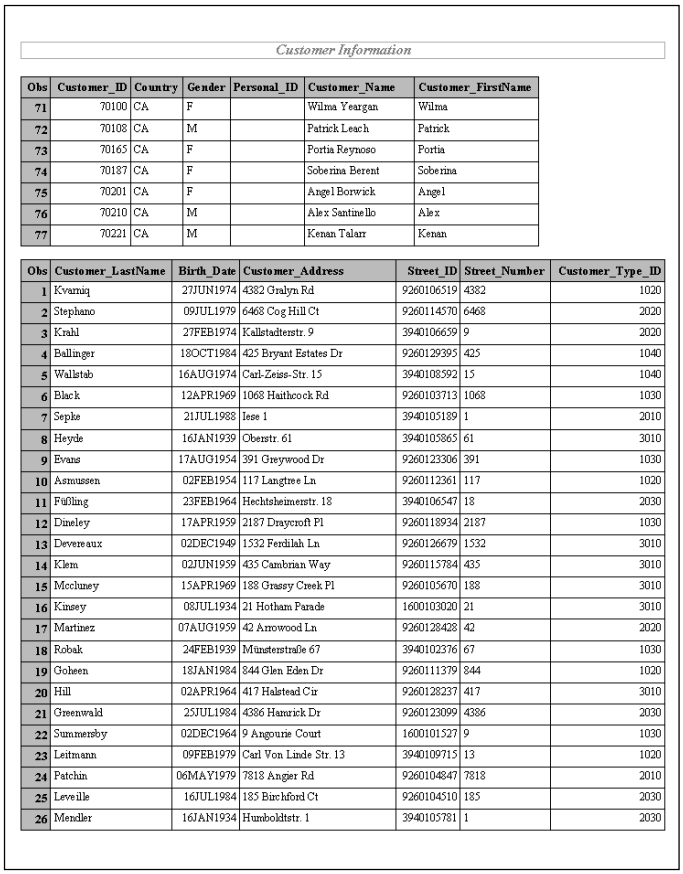
d. Modify your ODS statements to create the RTF version of the PROC PRINT report.

You can name the resulting RTF file p111s13.rtf.

e. Suppress the default Output window listing before generating the RTF report, and then re-establish the Output window as the report destination after the RTF report is complete.

f. Submit the program to produce the following report in RTF form as displayed in Microsoft Word:

Partial PROC PRINT Output



Customer Information

Obs	Customer_ID	Country	Gender	Personal_ID	Customer_Name	Customer_FirstName
71	70100	CA	F		Wilma Yeargan	Wilma
72	70108	CA	M		Patrick Leach	Patrick
73	70165	CA	F		Portia Reynoso	Portia
74	70187	CA	F		Soberina Berent	Soberina
75	70201	CA	F		Angel Borwick	Angel
76	70210	CA	M		Alex Santinello	Alex
77	70221	CA	M		Kenan Talarr	Kenan

Obs	Customer_LastName	Birth_Date	Customer_Address	Street_ID	Street_Number	Customer_Type_ID
1	Kvarniq	27JUN1974	4382 Gralyn Rd	9260106519	4382	1020
2	Stephano	09JUL1979	6468 Cog Hill Ct	9260114570	6468	2020
3	Krahl	27FEB1974	Kallstadterstr. 9	3940106659	9	2020
4	Ballinger	18OCT1984	425 Bryant Estates Dr	9260129395	425	1040
5	Wallstab	16AUG1974	Carl-Zeiss-Str. 15	3940108592	15	1040
6	Black	12APR1969	1068 Haithcock Rd	9260103713	1068	1030
7	Sepke	21JUL1988	Iese 1	3940105189	1	2010
8	Heyde	16JAN1939	Oberstr. 61	3940105865	61	3010
9	Evans	17AUG1954	391 Greywood Dr	9260123306	391	1030
10	Asmussen	02FEB1954	117 Langtree Ln	9260112361	117	1020
11	Fußling	23FEB1964	Hechtsheimerstr. 18	3940106547	18	2030
12	Dineley	17APR1959	2187 Draycroft Pl	9260118934	2187	1030
13	Devereaux	02DEC1949	1532 Ferdilah Ln	9260126679	1532	3010
14	Klem	02JUN1959	435 Cambrian Way	9260115784	435	3010
15	Mccluney	15APR1969	188 Grassy Creek Pl	9260105670	188	3010
16	Kinsey	08JUL1934	21 Hotham Parade	1600103020	21	3010
17	Martinez	07AUG1959	42 Arrowood Ln	9260128428	42	2020
18	Robak	24FEB1939	Münsterstraße 67	3940102376	67	1030
19	Goheen	18JAN1984	844 Glen Eden Dr	9260111379	844	1020
20	Hill	02APR1964	417 Halstead Cir	9260128237	417	3010
21	Greenwald	25JUL1984	4386 Hamrick Dr	9260123099	4386	2030
22	Summersby	02DEC1964	9 Angourie Court	1600101527	9	1030
23	Leitmann	09FEB1979	Carl Von Linde Str. 13	3940109715	13	1020
24	Patchin	06MAY1979	7818 Angier Rd	9260104847	7818	2010
25	Leveille	16JUL1984	185 Birchford Ct	9260104510	185	2030
26	Mendler	16JAN1934	Humboldtstr. 1	3940105781	1	2030

g. Add the STYLE= option to the ODS RTF statement to use a style definitions such as Curve, Gears, Money, or Torn.

h. Submit the program and view the report in RTF form in Microsoft Word.

14. Creating ODS Output Compatible with Microsoft Excel

a. Retrieve the starter program **p111e14**.

b. Add ODS statements to send the report to a file that can be viewed in Microsoft Excel. Choose the ODS destination (and use the associated file extension) based on whether you want

1) style information stored in the report output

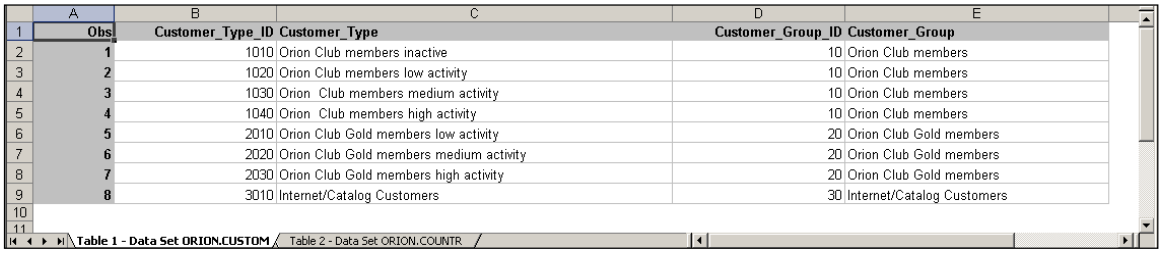
2) the reports in a single worksheet or multiple worksheets.

If selecting a destination that supports style information, specify the Listing style definition.

You can name the resulting Excel file p111s13.xls.

c. Submit the program to produce the output file.

d. Open the file with Microsoft Excel. The report should resemble the following results. Your output will look different depending on the ODS destination you choose.



	A	B	C	D	E
1	Obs	Customer_Type_ID	Customer_Type	Customer_Group_ID	Customer_Group
2	1	1010	Orion Club members inactive	10	Orion Club members
3	2	1020	Orion Club members low activity	10	Orion Club members
4	3	1030	Orion Club members medium activity	10	Orion Club members
5	4	1040	Orion Club members high activity	10	Orion Club members
6	5	2010	Orion Club Gold members low activity	20	Orion Club Gold members
7	6	2020	Orion Club Gold members medium activity	20	Orion Club Gold members
8	7	2030	Orion Club Gold members high activity	20	Orion Club Gold members
9	8	3010	Internet/Catalog Customers	30	Internet/Catalog Customers
10					
11					

Table 1 - Data Set ORION.CUSTOM | Table 2 - Data Set ORION.COUNTR

15. Adding HTML-Specific Features to ODS Output

a. Retrieve the starter program **p111e15**.

b. Create the HTML version of the PROC PRINT report by adding ODS statements.

You can name the resulting HTML file p111s13.html.

c. Customize the title so that it becomes a clickable hyperlink when displayed in a Web browser. The hyperlink should point to the URL http://www.sas.com (the SAS home page).

An option must be added to the TITLE statement to make it an active hyperlink. Documentation about the TITLE statement can be found in the SAS Help and Documentation from the Contents tab (**SAS Products** ⇨ **Base SAS** ⇨ **SAS 9.3 Language Reference: Dictionary** ⇨ **Dictionary of Language Elements** ⇨ **Statements** ⇨ **TITLE Statement**).

d. Submit the program to produce the following report in HTML form as displayed in Internet Explorer:

Partial PROC PRINT Output

Customer Information

Obs	Customer_ID	Country	Gender	Personal_ID	Customer_Name	Customer_FirstName	Customer_LastNa
1	4	US	M		James Kvarniq	James	Kvarniq
2	5	US	F		Sandrina Stephano	Sandrina	Stephano
3	9	DE	F		Cornelia Krahl	Cornelia	Krahl
4	10	US	F		Karen Ballinger	Karen	Ballinger
5	11	DE	F		Elke Wallstab	Elke	Wallstab
6	12	US	M		David Black	David	Black
7	13	DE	M		Markus Sepke	Markus	Sepke
8	16	DE	M		Ulrich Heyde	Ulrich	Heyde
9	17	US	M		Jimmie Evans	Jimmie	Evans