Unit 1-4 Exercises

Solutions to Exercises

1. **Examining the Data Portion**

   a. Retrieve the starter program.

   b. After the PROC CONTENTS step, add a PROC PRINT step.

```
data work.donations;
   infile 'donation.dat';
   input Employee_ID Qtr1 Qtr2 Qtr3 Qtr4;
   Total=sum(Qtr1,Qtr2,Qtr3,Qtr4);
run;

proc contents data=work.donations;
run;

proc print data=work.donations;
run;
```

   c. Submit the program.

   d. In the PROC PRINT step, add a VAR statement and the NOOBS option.

```
proc print data=work.donations noobs;
   var Employee_ID Total;
run;
```

   e. Submit the program.

2. Examining the Descriptor and Data Portions

a. Retrieve the starter program.

b. After the DATA step, add a PROC CONTENTS step.

```
data work.newpacks;
   input Supplier_Name $ 1-20 Supplier_Country $ 23-24
         Product_Name $ 28-70;
   datalines;
Top Sports             DK   Black/Black
Top Sports             DK   X-Large Bottlegreen/Black
Top Sports             DK   Commanche Women's 6000 Q Backpack.
Bark
Miller Trading Inc     US   Expedition Camp Duffle Medium
Backpack
Toto Outdoor Gear      AU   Feelgood 55-75 Litre Black Women's
Backpack
Toto Outdoor Gear      AU   Jaguar 50-75 Liter Blue Women's
Backpack
Top Sports             DK   Medium Black/Bark Backpack
Top Sports             DK   Medium Gold Black/Gold Backpack
Top Sports             DK   Medium Olive Olive/Black Backpack
Toto Outdoor Gear      AU   Trekker 65 Royal Men's Backpack
Top Sports             DK   Victor Grey/Olive Women's Backpack
Luna sastreria S.A.    ES   Deer Backpack
Luna sastreria S.A.    ES   Deer Waist Bag
Luna sastreria S.A.    ES   Hammock Sports Bag
Miller Trading Inc     US   Sioux Men's Backpack 26 Litre.
;
run;

proc contents data=work.newpacks;
run;
```

c. Submit the program and answer the following questions:

How many observations are in the data set? **15**

How many variables are in the data set? **3**

What is the length (byte-size) of the variable **`Product_Name`**? **43**

d. After the PROC CONTENTS step, add a PROC PRINT step.

```
proc print data=work.newpacks noobs;
   var Product_Name Supplier_Name;
run;
```

e. Submit the program.

3. Working with Times and Datetimes

a. Retrieve and submit the starter program.

b. Notice the values of **`CurrentTime`** and **`CurrentDateTime`** in the PROC PRINT output.

c. Use the Help facility to find documentation on how times and datetimes are stored in SAS.

d. Complete the following sentences:

A SAS time value is a value representing the number of **seconds since midnight of the current day**.

A SAS datetime value is a value representing the number of **seconds between January 1, 1960, and an hour/minute/second within a specified date**.

4. Accessing a SAS Data Library

a. Write and submit the appropriate LIBNAME statement.

```
libname orion 'SAS-data-library';
```

b. Check the log to confirm that the SAS data library was assigned.

c. Add a PROC CONTENTS step to list all the SAS data sets in the **`orion`** library.

```
proc contents data=orion._all_ nods;
run;
```

d. Add another PROC CONTENTS step to display the descriptor portion of **`orion.sales`**.

```
proc contents data=orion.sales;
run;
```

e. Use the SAS Explorer window to view the contents of the **`orion`** library.

5. Reviewing Concepts

a. SAS statements usually begin with an **identifying keyword**.

b. Every SAS statement ends with a **semicolon**.

c. The descriptor portion of a SAS data set can be viewed using the **CONTENTS** procedure.

d. Character variable values can be up to **32,767** characters long and use **1** byte(s) of storage per character.

e. By default, numeric variables are stored in **8** bytes of storage.

f. The internally stored SAS date value for January 3, 1960, is **2**.

g. A SAS variable name has **1** to **32** characters and begins with a **letter** or an **underscore**.

h. A missing character value is displayed as a **blank**.

i. A missing numeric value is displayed as a **period**.

j. When a SAS session starts, SAS automatically creates the temporary library called **`Work`**.

k. A libref name must be **8** characters or less.

l. What are the two kinds of steps? **DATA and PROC**

m. What are the three primary windows in the SAS windowing environment? **Editor, Log, and Output**

n. What are the two portions of every SAS data set? **Descriptor and Data**

o. What are the two types of variables? **Character and Numeric**

p. True or False: If a SAS program produces output, then the program ran successfully and there is no need to check the SAS log. **False**

q. True or False: There are two methods for commenting in a SAS program. **True**

r. True or False: Omitting a semicolon never causes errors. **False**

s. True or False: A library reference name (libref) references a particular data set. **False**

t. True or False: If a data set is referenced with a one level name, **`Work`** is the implied libref. **True**

u. True or False: The _ALL_ keyword is used with the PRINT procedure. **False**

6. Investigating the LIBNAME Statement

a. Use the Help facility.

b. Answer the following questions:

What argument disassociates one or more currently assigned librefs? **CLEAR**

What system option provides you the convenience of specifying only a one-level name for permanent SAS files? **USER=**

c. Write and submit a LIBNAME statement.

```
libname _all_ list;
```