Practice

If you restarted your SAS session, open and submit the **libname.sas** program in the course files.

Level 1

1. Creating a SAS Table

The **pg1.eu_occ** SAS table contains monthly occupancy rates for European countries from January 2004 through September 2017.

a. Open the **pg1.eu_occ** table and examine the column names and values.

b. Open **p104p01.sas** from the **practices** folder. Modify the code to create a temporary table named **eu_occ2016** and read **pg1.eu_occ**.

c. Complete the WHERE statement to select only the stays that were reported in 2016. Notice that **YearMon** is a character column and the first four positions represent the year.

d. Complete the FORMAT statement in the DATA step to apply the COMMA17. format to the **Hotel**, **ShortStay**, and **Camp** columns.

e. Complete the DROP statement to exclude **Geo** from the output table.

	Country	YearMon	Hotel	ShortStay	Camp
1	Austria	2016M12	6,670,483	1,468,847	117,579
2	Austria	2016M11	3,600,616	681,867	28,303
3	Austria	2016M10	5,727,389	985,402	146,108
4	Austria	2016M09	7,726,801	1,443,829	620,032
5	Austria	2016M08	11,399,594	3,022,261	1,897,979
6	Austria	2016M07	9,996,416	2,633,484	1,608,971
7	Austria	2016M06	6,444,485	1,287,244	569,242
8	Austria	2016M05	5,619,330	1,118,179	445,622

Level 2

2. Creating a Permanent SAS Table

The **np_species** table includes one row for each species that is found in each national park.

a. Create a new program. Write a DATA step to read the **pg1.np_species** table and create a new permanent table named **fox**. Write the new table to the **output** folder.

b. Include only the rows where **Category** is *Mammal* and **Common_Names** includes *Fox*.

c. Exclude the **Category**, **Record_Status**, **Occurrence**, and **Nativeness** columns. Run the program.

d. Notice that *Fox Squirrels* are included in the output table. Add a condition in the WHERE statement to exclude rows that include *Squirrel*.

e. Sort the **fox** table by **Common_Names**.

	Species_ID	Family	Scientific_Name	Common_Names	Abundance	Seasonality	Conservation_Status
1	GAAR-1004	Canidae	Alopex lagopus	Arctic Fox	Unknown		
2	KOVA-1004	Canidae	Alopex lagopus	Arctic Fox			
3	ACAD-1004	Canidae	Vulpes vulpes	Black Fox, Cross Fox, Eastern...	Common	Breeder	
4	DEVA-1025	Canidae	Vulpes fulva	Black Fox, Cross Fox, Red Fo...			
5	GRSM-1012	Canidae	Vulpes fulva	Black Fox, Cross Fox, Red Fo...			
6	MORA-1007	Canidae	Vulpes vulpes cas...	Cascade Red Fox, Red Fox	Common	Breeder	
7	CHIS-1000	Canidae	Urocyon littoralis	Channel Islands Gray Fox	Rare	Breeder	
8	ARCH-1005	Canidae	Urocyon cinereoar...	Common Gray Fox	Uncommon		

Challenge

3. Creating a SAS Table Using Macro Variables

The **np_species** table includes one row for each species that is found in each national park.

a. Write a new program that creates a temporary table named **Mammal** that includes only the mammals from the **pg1.np_species** table. Do not include **Abundance**, **Seasonality**, or **Conservation_Status** in the output table.

b. Use PROC FREQ to determine how many species there are for each unique value of **Record_Status**.

Record_Status	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Approved	3489	90.22	3489	90.22
In Review	378	9.78	3867	100.00

c. Modify the program to use a macro variable to change *Mammal* to other values of **Category**. Change the macro variable value to *Bird* and run the program.

Note: Use PROC FREQ to determine the unique values of **Category**.

Record_Status	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Approved	14080	96.36	14080	96.36
In Review	532	3.64	14612	100.00

End of Practices