Practice

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

Level 1

1. Producing a Running Total

The **pg2.np_yearlyTraffic** table contains annual traffic counts at locations in national parks.

a. Open the **p202p01.sas** program in the **practices** folder. Open the **pg2.np_yearlyTraffic** table. Notice that the **Count** column records the number of cars that have passed through a particular location.

b. Modify the DATA step to create a column, **totTraffic**, that is the running total of **Count**.

c. Keep the **ParkName**, **Location**, **Count**, and **totTraffic** columns in the output table.

d. Format **totTraffic** so that values are displayed with commas.

	ParkName	Location	Count	totTraffic
1	Acadia NP	TRAFFIC COUNT AT SAND BEACH	377,759	377,759
2	Acadia NP	TRAFFIC COUNT AT SCHOODIC	113,601	491,360
3	Arches NP	Total Vehicles entering Park	569,658	1,061,018
4	Assateague Island NS	TRAFFIC COUNT AT BAYBERRY DRIVE	368,677	1,429,695
5	Assateague Island NS	TRAFFIC COUNT AT FWS ENTRANCE	407,276	1,836,971
6	Badlands NP	TOTAL TRAFFIC COUNT AT INTERIOR ENTRANCE (2602)	120,215	1,957,186
7	Badlands NP	TOTAL TRAFFIC COUNT AT NORTHEAST ENTRANCE (2601)	171,792	2,128,978

Level 2

2. Producing Multiple Totals

The **pg2.np_yearlyTraffic** table contains annual traffic counts at locations in national parks. Parks are classified as one of five types: National Monument, National Park, National Preserve, National River, and National Seashore.

a. Create a table, **parkTypeTraffic**, from the **pg2.np_yearlyTraffic** table. Use the following specifications.

1) Read only the rows from the input table where **ParkType** is *National Monument* or *National Park*.

2) Create two new columns named **MonumentTraffic** and **ParkTraffic**. The value of each column should be increased by the value of **Count** for that park type.

3) Format the new columns so that values are displayed with commas.

b. Create a listing report of **parkTypeTraffic**. Use **Accumulating Traffic Totals for Park Types** as the report title. Display the columns in this order: **ParkType**, **ParkName**, **Location**, **Count**, **MonumentTraffic**, and **ParkTraffic**.

Accumulating Traffic Totals for Park Types

Obs	ParkType	ParkName	Location	Count	MonumentTraffic	ParkTraffic
1	National Park	Acadia NP	TRAFFIC COUNT AT SAND BEACH	377,759	0	377,759
2	National Park	Acadia NP	TRAFFIC COUNT AT SCHOODIC	113,601	0	491,360
3	National Park	Arches NP	Total Vehicles entering Park	569,658	0	1,061,018
4	National Park	Badlands NP	TOTAL TRAFFIC COUNT AT INTERIOR ENTRANCE (2602)	120,215	0	1,181,233
5	National Park	Badlands NP	TOTAL TRAFFIC COUNT AT NORTHEAST ENTRANCE (2601)	171,792	0	1,353,025
6	National Park	Badlands NP	TOTAL TRAFFIC COUNT AT PINNACLES ENTRANCE (2603)	125,856	0	1,478,881
7	National Monument	Bandelier NM	TRAFFIC COUNT AT ENTRANCE	0	0	1,478,881

Challenge

3. Determining Maximum Amounts

The RETAIN statement can be used for other purposes besides accumulating columns. Use the **pg2.np_monthlyTraffic** table, which contains monthly traffic counts at locations in national parks. Create new columns that sequentially store the maximum value to date for **Count**, as well as the corresponding values for **Month** and **Location**.

a. Create a table, **cuyahoga_maxtraffic**, from the **pg2.np_monthlyTraffic** table. Use the following specifications.

1) Include only rows where **ParkName** is equal to *Cuyahoga Valley NP*.

2) Create three columns: **TrafficMax**, **MonthMax**, and **LocationMax**. Initialize **TrafficMax** to 0.

3) If the current traffic count is greater than the value in **TrafficMax**, then set the value of **TrafficMax** equal to **Count**, set the value of **MonthMax** equal to **Month**, and set the value of **LocationMax** equal to **Location**.

4) Format the **Count** and **TrafficMax** columns so that values are displayed with commas.

5) Keep only the **Location**, **Month**, **Count**, **TrafficMax**, **MonthMax**, and **LocationMax** columns in the output table.

	Location	Month	Count	TrafficMax	MonthMax	LocationMax
1	ADJ TRAFFIC COUNT AT BLUE HEN FALLS	1	743	743	1	ADJ TRAFFIC COUNT AT BLUE HEN FALLS
2	ADJ TRAFFIC COUNT AT BLUE HEN FALLS	2	780	780	2	ADJ TRAFFIC COUNT AT BLUE HEN FALLS
3	ADJ TRAFFIC COUNT AT BLUE HEN FALLS	3	1,447	1,447	3	ADJ TRAFFIC COUNT AT BLUE HEN FALLS
4	ADJ TRAFFIC COUNT AT BLUE HEN FALLS	4	772	1,447	3	ADJ TRAFFIC COUNT AT BLUE HEN FALLS
5	ADJ TRAFFIC COUNT AT BLUE HEN FALLS	5	1,638	1,638	5	ADJ TRAFFIC COUNT AT BLUE HEN FALLS
6	ADJ TRAFFIC COUNT AT BLUE HEN FALLS	6	896	1,638	5	ADJ TRAFFIC COUNT AT BLUE HEN FALLS
381	TRAFFIC COUNT AT WETMORE TRAILHE...	9	530	15,225	7	TRAFFIC COUNT AT STATION ROAD TRAI...
382	TRAFFIC COUNT AT WETMORE TRAILHE...	10	423	15,225	7	TRAFFIC COUNT AT STATION ROAD TRAI...
383	TRAFFIC COUNT AT WETMORE TRAILHE...	11	331	15,225	7	TRAFFIC COUNT AT STATION ROAD TRAI...
384	TRAFFIC COUNT AT WETMORE TRAILHE...	12	258	15,225	7	TRAFFIC COUNT AT STATION ROAD TRAI...

End of Practices