



# PROC REPORT- A BETTER WAY TO DISPLAY DATA

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Biostatistics

# Outline

- Proc Report & Proc Print
- Why Proc Report
- What else can PROC REPORT do?
  - Examples
  - Examples
  - And More Examples



# Example Data

`data Cars;`

`set sashelp.cars;`

`run;`

428 obs

15 variables

|     | Make       | Model                          | Type   | Origin | DriveTrain | MSRP     | Invoice  | Engine Size (L) | Cylinders | Horsepower | MPG (City) | MPG (Highway) |
|-----|------------|--------------------------------|--------|--------|------------|----------|----------|-----------------|-----------|------------|------------|---------------|
| 1   | Acura      | MDX                            | SUV    | Asia   | All        | \$36,945 | \$33,337 | 3.5             | 6         | 265        | 17         | 23            |
| 2   | Acura      | RSX Type S 2dr                 | Sedan  | Asia   | Front      | \$23,820 | \$21,761 | 2               | 4         | 200        | 24         | 31            |
| 3   | Acura      | TSX 4dr                        | Sedan  | Asia   | Front      | \$26,990 | \$24,647 | 2.4             | 4         | 200        | 22         | 29            |
| 4   | Acura      | TL 4dr                         | Sedan  | Asia   | Front      | \$33,195 | \$30,299 | 3.2             | 6         | 270        | 20         | 28            |
| 5   | Acura      | 3.5 RL 4dr                     | Sedan  | Asia   | Front      | \$43,755 | \$39,014 | 3.5             | 6         | 225        | 18         | 24            |
| 6   | Acura      | 3.5 RL w/Navigation 4dr        | Sedan  | Asia   | Front      | \$46,100 | \$41,100 | 3.5             | 6         | 225        | 18         | 24            |
| 7   | Acura      | NSX coupe 2dr manual S         | Sports | Asia   | Rear       | \$89,765 | \$79,978 | 3.2             | 6         | 290        | 17         | 24            |
| 8   | Audi       | A4 1.8T 4dr                    | Sedan  | Europe | Front      | \$25,940 | \$23,508 | 1.8             | 4         | 170        | 22         | 31            |
| 9   | Audi       | A4 1.8T convertible 2dr        | Sedan  | Europe | Front      | \$35,940 | \$32,506 | 1.8             | 4         | 170        | 23         | 30            |
| 10  | Audi       | A4 3.0 4dr                     | Sedan  | Europe | Front      | \$31,840 | \$28,846 | 3               | 6         | 220        | 20         | 28            |
| 11  | Audi       | A4 3.0 Quattro 4dr manual      | Sedan  | Europe | All        | \$33,430 | \$30,366 | 3               | 6         | 220        | 17         | 26            |
| 12  | Audi       | A4 3.0 Quattro 4dr auto        | Sedan  | Europe | All        | \$34,480 | \$31,388 | 3               | 6         | 220        | 18         | 25            |
| 13  | Audi       | A6 3.0 4dr                     | Sedan  | Europe | Front      | \$36,640 | \$33,129 | 3               | 6         | 220        | 20         | 27            |
| 14  | Audi       | A6 3.0 Quattro 4dr             | Sedan  | Europe | All        | \$39,640 | \$35,992 | 3               | 6         | 220        | 18         | 25            |
| 15  | Audi       | A4 3.0 convertible 2dr         | Sedan  | Europe | Front      | \$42,490 | \$38,325 | 3               | 6         | 220        | 20         | 27            |
| 16  | Audi       | A4 3.0 Quattro convertible 2dr | Sedan  | Europe | All        | \$44,240 | \$40,075 | 3               | 6         | 220        | 18         | 25            |
| 414 | Volkswagen | Jetta GL                       | Wagon  | Europe | Front      | \$19,005 | \$17,427 | 2               | 4         | 115        | 24         | 30            |
| 415 | Volkswagen | Passat GLS 1.8T                | Wagon  | Europe | Front      | \$24,955 | \$22,801 | 1.8             | 4         | 170        | 22         | 31            |
| 416 | Volkswagen | Passat W8                      | Wagon  | Europe | Front      | \$40,235 | \$36,956 | 4               | 8         | 270        | 18         | 25            |
| 417 | Volvo      | XC90 T6                        | SUV    | Europe | All        | \$41,250 | \$38,851 | 2.9             | 6         | 268        | 15         | 20            |
| 418 | Volvo      | S40 4dr                        | Sedan  | Europe | Front      | \$25,135 | \$23,701 | 1.9             | 4         | 170        | 22         | 29            |
| 419 | Volvo      | S60 2.5 4dr                    | Sedan  | Europe | All        | \$31,745 | \$29,916 | 2.5             | 5         | 208        | 20         | 27            |
| 420 | Volvo      | S60 T5 4dr                     | Sedan  | Europe | Front      | \$34,845 | \$32,902 | 2.3             | 5         | 247        | 20         | 28            |
| 421 | Volvo      | S60 R 4dr                      | Sedan  | Europe | All        | \$37,560 | \$35,382 | 2.5             | 5         | 300        | 18         | 25            |
| 422 | Volvo      | S80 2.9 4dr                    | Sedan  | Europe | Front      | \$37,730 | \$35,542 | 2.9             | 6         | 208        | 20         | 28            |
| 423 | Volvo      | S80 2.5T 4dr                   | Sedan  | Europe | All        | \$37,885 | \$35,688 | 2.5             | 5         | 194        | 20         | 27            |
| 424 | Volvo      | C70 LPT convertible 2dr        | Sedan  | Europe | Front      | \$40,565 | \$38,203 | 2.4             | 5         | 197        | 21         | 28            |
| 425 | Volvo      | C70 HPT convertible 2dr        | Sedan  | Europe | Front      | \$42,565 | \$40,083 | 2.3             | 5         | 242        | 20         | 26            |
| 426 | Volvo      | S80 T6 4dr                     | Sedan  | Europe | Front      | \$45,210 | \$42,573 | 2.9             | 6         | 268        | 19         | 26            |
| 427 | Volvo      | V40                            | Wagon  | Europe | Front      | \$26,135 | \$24,641 | 1.9             | 4         | 170        | 22         | 29            |
| 428 | Volvo      | XC70                           | Wagon  | Europe | All        | \$35,145 | \$33,112 | 2.5             | 5         | 208        | 20         | 27            |

# Proc Report & Proc Print

- Procedures which allows one to display data

```
proc print data=cars (obs=5);  
  var make model weight;  
run;
```

| Obs | Make  | Model          | Weight |
|-----|-------|----------------|--------|
| 1   | Acura | MDX            | 4451   |
| 2   | Acura | RSX Type S 2dr | 2778   |
| 3   | Acura | TSX 4dr        | 3230   |
| 4   | Acura | TL 4dr         | 3575   |
| 5   | Acura | 3.5 RL 4dr     | 3880   |

```
proc report data=cars(obs=5) nowd;  
  column make model weight;  
run;
```

| Make  | Model          | Weight (LBS) |
|-------|----------------|--------------|
| Acura | MDX            | 4451         |
| Acura | RSX Type S 2dr | 2778         |
| Acura | TSX 4dr        | 3230         |
| Acura | TL 4dr         | 3575         |
| Acura | 3.5 RL 4dr     | 3880         |



# Advantages of Knowing Proc Report

- Jobs
- Saves Time
  - Reduces Coding
  - Bypass many procedures
- Awesome Display
- ITS JUST FUN!

## Resume 1

Name: Eddard

Skills: R Pack

SAS, Microso



I have 25 Doctorate degrees

I can work 23 hours a day \$1/per hour

## Resume 2

Name: Daenerys Targaryen

Skills: PROC REPORT



# Proc Report

- Proc Report can do a lot more.
- Proc Report Combines:
  - Proc Print
  - Proc Sort
  - Proc Means
  - Proc Freq
  - Proc Tabulate

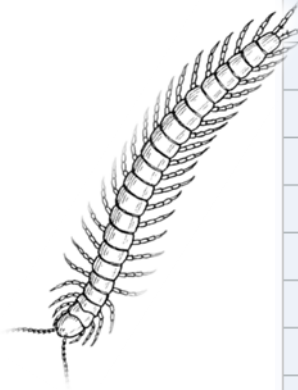
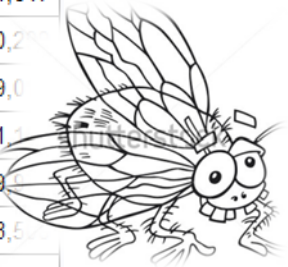


# What else can Proc Report do?

- Group a variable by its Values
- Transpose a variable (from long format to wide format)
- Summary Statistics
- Indentations
- Skip or add sentences before or after each group.
- Improvements to Display (Colors, Highlighting)
- Basically can do lots of things normally done using Proc Template.

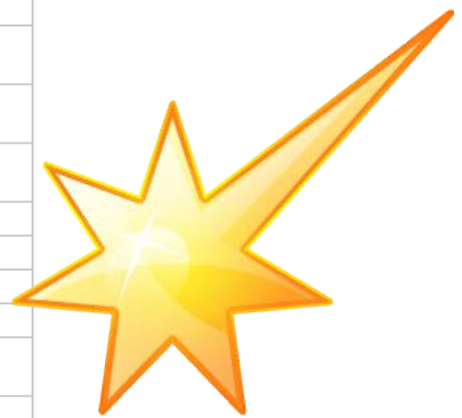
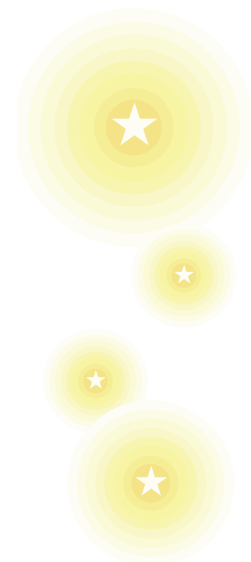
## The SAS System

| Obs | Make  | Type   | Origin | MSRP     | Invoice  |
|-----|-------|--------|--------|----------|----------|
| 1   | Acura | SUV    | Asia   | \$36,945 | \$33,337 |
| 2   | Acura | Sedan  | Asia   | \$23,820 | \$21,761 |
| 3   | Acura | Sedan  | Asia   | \$26,990 | \$24,647 |
| 4   | Acura | Sedan  | Asia   | \$33,195 | \$30,255 |
| 5   | Acura | Sedan  | Asia   | \$43,755 | \$39,015 |
| 6   | Acura | Sedan  | Asia   | \$46,100 | \$41,100 |
| 7   | Acura | Sports | Asia   | \$89,765 | \$79,765 |
| 8   | Audi  | Sedan  | Europe | \$25,940 | \$23,540 |
| 9   | Audi  | Sedan  | Europe | \$35,940 | \$32,506 |
| 10  | Audi  | Sedan  | Europe | \$31,840 | \$28,846 |
| 11  | Audi  | Sedan  | Europe | \$33,430 | \$30,366 |
| 12  | Audi  | Sedan  | Europe | \$34,480 | \$31,388 |
| 13  | Audi  | Sedan  | Europe | \$36,640 | \$33,129 |
| 14  | Audi  | Sedan  | Europe | \$39,640 | \$35,992 |
| 15  | Audi  | Sedan  | Europe | \$42,490 | \$38,325 |
| 16  | Audi  | Sedan  | Europe | \$44,240 | \$40,075 |
| 17  | Audi  | Sedan  | Europe | \$42,840 | \$38,840 |
| 18  | Audi  | Sedan  | Europe | \$49,690 | \$44,936 |
| 19  | Audi  | Sedan  | Europe | \$69,190 | \$64,740 |
| 20  | Audi  | Sedan  | Europe | \$48,040 | \$43,550 |
| 21  | Audi  | Sports | Europe | \$84,600 | \$76,400 |
| 22  | Audi  | Sports | Europe | \$35,940 | \$32,510 |
| 23  | Audi  | Sports | Europe | \$37,390 | \$33,891 |
| 24  | Audi  | Sports | Europe | \$40,590 | \$36,739 |
| 25  | Audi  | Wagon  | Europe | \$40,840 | \$37,060 |
| 26  | Audi  | Wagon  | Europe | \$49,090 | \$44,446 |
| 27  | BMW   | SUV    | Europe | \$37,000 | \$33,873 |

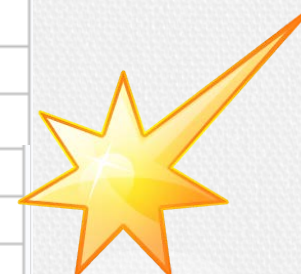




| Make (1)                       | Type (2)                         | Origin (4)           | Model (3)                      | MSRP (5) | Invoice (6) |                                |          |
|--------------------------------|----------------------------------|----------------------|--------------------------------|----------|-------------|--------------------------------|----------|
| Acura                          | SUV                              | Asia                 | MDX                            | \$36,945 | \$33,337    |                                |          |
|                                | Sedan                            | Asia                 | RSX Type S 2dr                 | \$23,820 | \$21,761    |                                |          |
|                                |                                  |                      | TSX 4dr                        | \$26,990 | \$24,647    |                                |          |
|                                |                                  |                      | TL 4dr                         | \$33,195 | \$30,299    |                                |          |
|                                |                                  |                      | 3.5 RL 4dr                     | \$43,755 | \$39,014    |                                |          |
|                                |                                  |                      | 3.5 RL w/Navigation 4dr        | \$46,100 | \$41,100    |                                |          |
|                                | Sports                           | Asia                 | NSX coupe 2dr manual S         | \$89,765 | \$79,978    |                                |          |
| Audi                           | Sedan                            | Europe               | A4 1.8T 4dr                    | \$25,940 | \$23,508    |                                |          |
|                                |                                  |                      | A41.8T convertible 2dr         | \$35,940 | \$32,506    |                                |          |
|                                |                                  |                      | A4 3.0 4dr                     | \$31,840 | \$28,846    |                                |          |
|                                |                                  |                      | A4 3.0 Quattro 4dr manual      | \$33,430 | \$30,366    |                                |          |
|                                |                                  |                      | A4 3.0 Quattro 4dr auto        | \$34,480 | \$31,388    |                                |          |
|                                |                                  |                      | A6 3.0 4dr                     | \$36,640 | \$33,129    |                                |          |
|                                |                                  |                      | A6 3.0 Quattro 4dr             | \$39,640 | \$35,992    |                                |          |
|                                |                                  |                      | A4 3.0 convertible 2dr         | \$42,490 | \$38,325    |                                |          |
|                                |                                  |                      | A4 3.0 Quattro convertible 2dr | \$44,240 | \$40,075    |                                |          |
|                                |                                  |                      | A6 2.7 Turbo Quattro 4dr       | \$42,840 | \$38,840    |                                |          |
|                                |                                  |                      | A6 4.2 Quattro 4dr             | \$49,690 | \$44,936    |                                |          |
|                                |                                  |                      | A8 L Quattro 4dr               | \$69,190 | \$64,740    |                                |          |
|                                |                                  |                      | S4 Quattro 4dr                 | \$48,040 | \$43,556    |                                |          |
|                                |                                  |                      | Sports                         | Europe   | RS 6 4dr    | \$84,600                       | \$76,417 |
|                                |                                  |                      |                                |          |             | TT 1.8 convertible 2dr (coupe) | \$35,940 |
|                                | TT 1.8 Quattro 2dr (convertible) | \$37,390             |                                |          |             | \$33,891                       |          |
| TT 3.2 coupe 2dr (convertible) | \$40,590                         | \$36,739             |                                |          |             |                                |          |
| Wagon                          | Europe                           | A6 3.0 Avant Quattro | \$40,840                       | \$37,060 |             |                                |          |
|                                |                                  | S4 Avant Quattro     | \$49,090                       | \$44,446 |             |                                |          |
| BMW                            | SUV                              | Europe               | X3 3.0i                        | \$37,000 | \$33,873    |                                |          |
|                                |                                  |                      | X5 4.4i                        | \$52,195 | \$47,720    |                                |          |
|                                | Sedan                            | Europe               | 325i 4dr                       | \$28,495 | \$26,155    |                                |          |
|                                |                                  |                      | 325Ci 2dr                      | \$30,795 | \$28,245    |                                |          |
|                                |                                  |                      | 325Ci convertible              | \$37,995 | \$34,800    |                                |          |



| Make (1)      | Type (2) | Model (3)               | MSRP (5) | Invoice (6) |
|---------------|----------|-------------------------|----------|-------------|
| <b>Asia</b>   |          |                         |          |             |
| Acura         | SUV      | MDX                     | \$36,945 | \$33,337    |
|               | Sedan    | RSX Type S 2dr          | \$23,820 | \$21,761    |
|               |          | TSX 4dr                 | \$26,990 | \$24,647    |
|               |          | TL 4dr                  | \$33,195 | \$30,299    |
|               |          | 3.5 RL 4dr              | \$43,755 | \$39,014    |
|               |          | 3.5 RL w/Navigation 4dr | \$46,100 | \$41,100    |
|               | Sports   | NSX coupe 2dr manual S  | \$89,765 | \$79,978    |
| <b>Europe</b> |          |                         |          |             |
| Audi          | Sedan    | A4 1.8T 4dr             | \$25,940 | \$23,508    |
|               |          | A4 1.8T convertible 2dr | \$35,940 | \$32,506    |
|               |          | A4 3.0 4dr              | \$31,840 | \$28,846    |
|               |          | A4 3.0 Quattro 4dr      | \$33,430 | \$30,366    |
| BMW           | SUV      | X3 3.0i                 | \$37,000 | \$33,873    |
|               |          | X5 4.4i                 | \$52,195 | \$47,720    |
|               | Sedan    | 325i 4dr                | \$28,495 | \$26,155    |
|               |          | 325Ci 2dr               | \$30,795 | \$28,245    |
|               |          | 325Ci convertible       | \$37,995 | \$34,800    |
| <b>USA</b>    |          |                         |          |             |
| Buick         | SUV      | Rainier                 | \$37,895 | \$34,357    |
|               |          | Rendezvous CX           | \$26,545 | \$24,085    |
|               | Sedan    | Century Custom 4dr      | \$22,180 | \$20,351    |
|               |          | LeSabre Custom 4dr      | \$26,470 | \$24,282    |





|             |             |                                     | Origin<br>(4)                     |                |             |                |             |                |   |
|-------------|-------------|-------------------------------------|-----------------------------------|----------------|-------------|----------------|-------------|----------------|---|
|             |             |                                     | Asia                              |                | Europe      |                | USA         |                |   |
| Make<br>(1) | Type<br>(2) | Model<br>(3)                        | MSRP<br>(5)                       | Invoice<br>(6) | MSRP<br>(5) | Invoice<br>(6) | MSRP<br>(5) | Invoice<br>(6) |   |
| Acura       | SUV         | MDX                                 | \$36,945                          | \$33,337       | .           | .              | .           | .              |   |
|             | Sedan       | RSX Type S 2dr                      | \$23,820                          | \$21,761       | .           | .              | .           | .              |   |
|             |             | TSX 4dr                             | \$26,990                          | \$24,647       | .           | .              | .           | .              |   |
|             |             | TL 4dr                              | \$33,195                          | \$30,299       | .           | .              | .           | .              |   |
|             |             | 3.5 RL 4dr                          | \$43,755                          | \$39,014       | .           | .              | .           | .              |   |
|             |             | 3.5 RL<br>w/Navigation 4dr          | \$46,100                          | \$41,100       | .           | .              | .           | .              |   |
|             | Sports      | NSX coupe 2dr<br>manual S           | \$89,765                          | \$79,978       | .           | .              | .           | .              |   |
| Audi        | Sedan       | A4 1.8T 4dr                         | .                                 | .              | \$25,940    | \$23,508       | .           | .              |   |
|             |             | A4 1.8T convertible<br>2dr          | .                                 | .              | \$35,940    | \$32,506       | .           | .              |   |
|             |             | A4 3.0 4dr                          | .                                 | .              | \$31,840    | \$28,846       | .           | .              |   |
|             |             | A4 3.0 Quattro 4dr<br>manual        | .                                 | .              | \$33,430    | \$30,366       | .           | .              |   |
|             |             | A4 3.0 Quattro 4dr<br>auto          | .                                 | .              | \$34,480    | \$31,388       | .           | .              |   |
|             |             | A6 3.0 4dr                          | .                                 | .              | \$36,640    | \$33,129       | .           | .              |   |
|             |             | A6 3.0 Quattro 4dr                  | .                                 | .              | \$39,640    | \$35,992       | .           | .              |   |
|             |             | A4 3.0 convertible<br>2dr           | .                                 | .              | \$42,490    | \$38,325       | .           | .              |   |
|             |             | A4 3.0 Quattro<br>convertible 2dr   | .                                 | .              | \$44,240    | \$40,075       | .           | .              |   |
|             |             | A6 2.7 Turbo<br>Quattro 4dr         | .                                 | .              | \$42,840    | \$38,840       | .           | .              |   |
|             |             | A6 4.2 Quattro 4dr                  | .                                 | .              | \$49,690    | \$44,936       | .           | .              |   |
|             |             | A8 L Quattro 4dr                    | .                                 | .              | \$69,190    | \$64,740       | .           | .              |   |
|             |             | S4 Quattro 4dr                      | .                                 | .              | \$48,040    | \$43,556       | .           | .              |   |
|             |             | Sports                              | RS 6 4dr                          | .              | .           | \$84,600       | \$76,417    | .              | . |
|             |             |                                     | TT 1.8 convertible<br>2dr (coupe) | .              | .           | \$35,940       | \$32,512    | .              | . |
|             |             | TT 1.8 Quattro 2dr<br>(convertible) | .                                 | .              | \$37,390    | \$33,891       | .           | .              |   |
|             |             | TT 3.2 coupe 2dr<br>(convertible)   | .                                 | .              | \$40,590    | \$36,739       | .           | .              |   |
|             | Wagon       | A6 3.0 Avant<br>Quattro             | .                                 | .              | \$40,840    | \$37,060       | .           | .              |   |
|             |             | S4 Avant Quattro                    | .                                 | .              | \$49,090    | \$44,446       | .           | .              |   |
| BMW         | SUV         | X3 3.0i                             | .                                 | .              | \$37,000    | \$33,873       | .           | .              |   |

# Group

```
proc report data=cars(obs=50) nowd;  
    column Make Model MSRP Cylinders MPG_City;  
    define Make / Display;  
run;  
proc report data=cars(obs=50) nowd;  
    column Make Model MSRP Cylinders MPG_City;  
    define Make / Group;  
run;
```

| Make  | Model                     | MSRP     | Cylinders | MPG (City) |
|-------|---------------------------|----------|-----------|------------|
| Acura | MDX                       | \$36,945 | 6         | 17         |
| Acura | RSX Type S 2dr            | \$23,820 | 4         | 24         |
| Acura | TSX 4dr                   | \$26,990 | 4         | 22         |
| Acura | TL 4dr                    | \$33,195 | 6         | 20         |
| Acura | 3.5 RL 4dr                | \$43,755 | 6         | 18         |
| Acura | 3.5 RL w/Navigation 4dr   | \$46,100 | 6         | 18         |
| Acura | NSX coupe 2dr manual S    | \$89,765 | 6         | 17         |
| Audi  | A4 1.8T 4dr               | \$25,940 | 4         | 22         |
| Audi  | A4 1.8T convertible 2dr   | \$35,940 | 4         | 23         |
| Audi  | A4 3.0 4dr                | \$31,840 | 6         | 20         |
| Audi  | A4 3.0 Quattro 4dr manual | \$33,430 | 6         | 17         |

| Make  | Model                     | MSRP     | Cylinders | MPG (City) |
|-------|---------------------------|----------|-----------|------------|
| Acura | MDX                       | \$36,945 | 6         | 17         |
|       | RSX Type S 2dr            | \$23,820 | 4         | 24         |
|       | TSX 4dr                   | \$26,990 | 4         | 22         |
|       | TL 4dr                    | \$33,195 | 6         | 20         |
|       | 3.5 RL 4dr                | \$43,755 | 6         | 18         |
|       | 3.5 RL w/Navigation 4dr   | \$46,100 | 6         | 18         |
|       | NSX coupe 2dr manual S    | \$89,765 | 6         | 17         |
| Audi  | A4 1.8T 4dr               | \$25,940 | 4         | 22         |
|       | A4 1.8T convertible 2dr   | \$35,940 | 4         | 23         |
|       | A4 3.0 4dr                | \$31,840 | 6         | 20         |
|       | A4 3.0 Quattro 4dr manual | \$33,430 | 6         | 17         |



# Transpose a variable

```
proc report data=cars(obs=50) nowd;
  column Make Model Origin MSRP MPG_City;
  define Make / Group;
  define Model / Group;
  define Origin / across;

run;
```

|                                |                         | Origin      |        |     |          |            |
|--------------------------------|-------------------------|-------------|--------|-----|----------|------------|
| Make                           | Model                   | Asia        | Europe | USA | MSRP     | MPG (City) |
| Acura                          | 3.5 RL 4dr              | 1           | .      | .   | \$43,755 | 18         |
|                                | 3.5 RL w/Navigation 4dr | 1           | .      | .   | \$46,100 | 18         |
|                                | MDX                     | 1           | .      | .   | \$36,945 | 17         |
|                                | NSX coupe 2dr manual S  | 1           | .      | .   | \$89,765 | 17         |
|                                | RSX Type S 2dr          | 1           | .      | .   | \$23,820 | 24         |
|                                | TL 4dr                  | 1           | .      | .   | \$33,195 | 20         |
|                                | TSX 4dr                 | 1           | .      | .   | \$26,990 | 22         |
|                                | Audi                    | A4 1.8T 4dr | .      | 1   | .        | \$25,940   |
| A4 3.0 4dr                     |                         | .           | 1      | .   | \$31,840 | 20         |
| A4 3.0 Quattro 4dr auto        |                         | .           | 1      | .   | \$34,480 | 18         |
| A4 3.0 Quattro 4dr manual      |                         | .           | 1      | .   | \$33,430 | 17         |
| A4 3.0 Quattro convertible 2dr |                         | .           | 1      | .   | \$44,240 | 18         |
| Buick                          | Century Custom 4dr      | .           | .      | 1   | \$22,180 | 20         |

# Transpose and group variables

```
proc report data=cars(obs=50) nowd;
    column Make Model origin, (MSRP MPG_City);
    define Make / Group;
    define Model / display;
    define origin / across;

run;
```

|       |                           | Origin   |            |          |            |          |            |
|-------|---------------------------|----------|------------|----------|------------|----------|------------|
|       |                           | Asia     |            | Europe   |            | USA      |            |
| Make  | Model                     | MSRP     | MPG (City) | MSRP     | MPG (City) | MSRP     | MPG (City) |
| Acura | MDX                       | \$36,945 | 17         | .        | .          | .        | .          |
|       | RSX Type S 2dr            | \$23,820 | 24         | .        | .          | .        | .          |
|       | TSX 4dr                   | \$26,990 | 22         | .        | .          | .        | .          |
|       | TL 4dr                    | \$33,195 | 20         | .        | .          | .        | .          |
|       | 3.5 RL 4dr                | \$43,755 | 18         | .        | .          | .        | .          |
|       | 3.5 RL w/Navigation 4dr   | \$46,100 | 18         | .        | .          | .        | .          |
|       | NSX coupe 2dr manual S    | \$89,765 | 17         | .        | .          | .        | .          |
| Audi  | A4 1.8T 4dr               | .        | .          | \$25,940 | 22         | .        | .          |
|       | A4 1.8T convertible 2dr   | .        | .          | \$35,940 | 23         | .        | .          |
|       | A4 3.0 4dr                | .        | .          | \$31,840 | 20         | .        | .          |
|       | A4 3.0 Quattro 4dr manual | .        | .          | \$33,430 | 17         | .        | .          |
| ⋮     |                           |          |            |          |            |          |            |
| Buick | Rainier                   | .        | .          | .        | .          | \$37,895 | 15         |



# Skip a line or add a text after each group

```
proc report data=cars(obs=50) nowd out=haha;  
  column Make Model origin, (MSRP MPG_City);  
  define Make / Group;  
  define Model / display;  
  define origin / across;  
  Compute after Make;  
  Line " Next Car";  
endcomp;  
run;
```

Can put Either  
before  
or  
after

|          |                           | Origin   |            |          |            |      |            |
|----------|---------------------------|----------|------------|----------|------------|------|------------|
|          |                           | Asia     |            | Europe   |            | USA  |            |
| Make     | Model                     | MSRP     | MPG (City) | MSRP     | MPG (City) | MSRP | MPG (City) |
| Acura    | MDX                       | \$36,945 | 17         | .        | .          | .    | .          |
|          | RSX Type S 2dr            | \$23,820 | 24         | .        | .          | .    | .          |
|          | TSX 4dr                   | \$26,990 | 22         | .        | .          | .    | .          |
|          | TL 4dr                    | \$33,195 | 20         | .        | .          | .    | .          |
|          | 3.5 RL 4dr                | \$43,755 | 18         | .        | .          | .    | .          |
|          | 3.5 RL w/Navigation 4dr   | \$46,100 | 18         | .        | .          | .    | .          |
|          | NSX coupe 2dr manual S    | \$89,765 | 17         | .        | .          | .    | .          |
| Next Car |                           |          |            |          |            |      |            |
| Audi     | A4 1.8T 4dr               | .        | .          | \$25,940 | 22         | .    | .          |
|          | A41.8T convertible 2dr    | .        | .          | \$35,940 | 23         | .    | .          |
|          | A4 3.0 4dr                | .        | .          | \$31,840 | 20         | .    | .          |
|          | A4 3.0 Quattro 4dr manual | .        | .          | \$33,430 | 17         | .    | .          |
|          | A4 3.0 Quattro 4dr auto   | .        | .          | \$34,480 | 18         | .    | .          |
|          | A6 3.0 4dr                | .        | .          | \$36,640 | 20         | .    | .          |
|          | A6 3.0 Quattro 4dr        | .        | .          | \$39,640 | 18         | .    | .          |
|          | A4 3.0 convertible 2dr    | .        | .          | \$42,490 | 20         | .    | .          |

# Use a variable instead of a text

```
proc report data=cars(obs=50) nowd out=haha;  
  column Make Model origin, (MSRP MPG_City);  
  define Make / Group noprint;  
  define Model / display;  
  define origin / across;  
  Compute before Make;  
  Line @5 Make $50.;  
endcomp;  
run;
```

| Model                     | Origin   |            |          |            |      |            |
|---------------------------|----------|------------|----------|------------|------|------------|
|                           | Asia     |            | Europe   |            | USA  |            |
|                           | MSRP     | MPG (City) | MSRP     | MPG (City) | MSRP | MPG (City) |
| Acura                     |          |            |          |            |      |            |
| MDX                       | \$36,945 | 17         | .        | .          | .    | .          |
| RSX Type S 2dr            | \$23,820 | 24         | .        | .          | .    | .          |
| TSX 4dr                   | \$26,990 | 22         | .        | .          | .    | .          |
| TL 4dr                    | \$33,195 | 20         | .        | .          | .    | .          |
| 3.5 RL 4dr                | \$43,755 | 18         | .        | .          | .    | .          |
| 3.5 RL w/Navigation 4dr   | \$46,100 | 18         | .        | .          | .    | .          |
| NSX coupe 2dr manual S    | \$89,765 | 17         | .        | .          | .    | .          |
| Audi                      |          |            |          |            |      |            |
| A4 1.8T 4dr               | .        | .          | \$25,940 | 22         | .    | .          |
| A4 1.8T convertible 2dr   | .        | .          | \$35,940 | 23         | .    | .          |
| A4 3.0 4dr                | .        | .          | \$31,840 | 20         | .    | .          |
| A4 3.0 Quattro 4dr manual | .        | .          | \$33,430 | 17         | .    | .          |



# Add a Different Line after each group

```
Data cars2;  
  set cars;  
  by make;  
  if first.make then Line+1;  
  else line + 0;  
run;
```



Data Step To create a variable called "line" which has a different value for each "Make"

```
proc report data=cars2(obs=50) nowd out=haha;  
  column Line Make Model origin, (MSRP MPG_City);  
  define Line / group noprint;  
  define Make / Group;  
  define Model / display;  
  define origin / across;  
  Compute before a;  
    length Text $50;  
    if Line = 1 then text = "This Car is Asian";  
    else if Line = 2 then Text = "This Car is European ";  
    else If Line = 3 then Text = "I Love this car but I cannot afford it";  
    else text = "If Oprah was here, each of us would get one";  
    Line @1 Text $50.;  
  endcomp;  
run;
```

- Create a variable called Text and allow a length of 50
- Create a text for each group

# If possible bypass datastep

```
proc report data=cars2(obs=50) nowd out=haha;
  column Make Model origin, (MSRP MPG_City);
  define Make / Group;
  define Model / display;
  define origin / across;
  Compute before Make;
    length Text $50;
    if Make = "Acura" then text = "This Car is Asian";
    else if Make = "Audi" then Text = "This Car is European ";
    else If Make = "BMW" then Text = "I Love this car but I cannot afford it";
    else text = "If Oprah was here, each of us would get one";
    Line @1 Text $50.;
  endcomp;
run;
```

|   |                         | Origin   |            |          |            |          |            |
|---|-------------------------|----------|------------|----------|------------|----------|------------|
|   |                         | Asia     |            | Europe   |            | USA      |            |
| Make  | Model                   | MSRP     | MPG (City) | MSRP     | MPG (City) | MSRP     | MPG (City) |
| This Car is Asian                           |                         |          |            |          |            |          |            |
| Acura                                       | MDX                     | \$36,945 | 17         | .        | .          | .        | .          |
|   | RSX Type S 2dr          | \$23,820 | 24         | .        | .          | .        | .          |
|   | TSX 4dr                 | \$26,990 | 22         | .        | .          | .        | .          |
| This Car is European                        |                         |          |            |          |            |          |            |
| Audi  | A4 1.8T 4dr             | .        | .          | \$25,940 | 22         | .        | .          |
|   | A4 1.8T convertible 2dr | .        | .          | \$35,940 | 23         | .        | .          |
|   | A4 3.0 4dr              | .        | .          | \$31,840 | 20         | .        | .          |
| I Love this car but I cannot afford it      |                         |          |            |          |            |          |            |
| BMW   | X3 3.0i                 | .        | .          | \$37,000 | 16         | .        | .          |
|   | X5 4.4i                 | .        | .          | \$52,195 | 16         | .        | .          |
|   | 325i 4dr                | .        | .          | \$28,495 | 20         | .        | .          |
| If Oprah was here, each of us would get one |                         |          |            |          |            |          |            |
| Buick                                       | Rainier                 | .        | .          | .        | .          | \$37,895 | 19 15      |



# Add Summary After Display (sum)

```
proc report data=cars(obs=50) nowd out=haha;
  column Make Model origin, (MSRP MPG_City);
  define Make / Group;
  define Model / display;
  define origin / across;
  break after Make / summarize;
run;
```

|              |                         | Origin           |            |        |            |                  |            |
|--------------|-------------------------|------------------|------------|--------|------------|------------------|------------|
|              |                         | Asia             |            | Europe |            | USA              |            |
| Make         | Model                   | MSRP             | MPG (City) | MSRP   | MPG (City) | MSRP             | MPG (City) |
| Acura        | MDX                     | \$36,945         | 17         | .      | .          | .                | .          |
|              | RSX Type S 2dr          | \$23,820         | 24         | .      | .          | .                | .          |
|              | TSX 4dr                 | \$26,990         | 22         | .      | .          | .                | .          |
|              | TL 4dr                  | \$33,195         | 20         | .      | .          | .                | .          |
|              | 3.5 RL 4dr              | \$43,755         | 18         | .      | .          | .                | .          |
|              | 3.5 RL w/Navigation 4dr | \$46,100         | 18         | .      | .          | .                | .          |
|              | NSX coupe 2dr manual S  | \$89,765         | 17         | .      | .          | .                | .          |
| <i>Acura</i> |                         | <i>\$300,570</i> | <i>136</i> | .      | .          | .                | .          |
| Buick        | Rainier                 | .                | .          | .      | .          | \$37,895         | 15         |
|              | Rendezvous CX           | .                | .          | .      | .          | \$26,545         | 19         |
|              | Century Custom 4dr      | .                | .          | .      | .          | \$22,180         | 20         |
|              | LeSabre Custom 4dr      | .                | .          | .      | .          | \$26,470         | 20         |
| <i>Buick</i> |                         | .                | .          | .      | .          | <i>\$113,090</i> | <i>74</i>  |

# Summarize (sum)

```
proc report data=cars nowd;
column Make Origin,(MSRP MPG_City);
       define Make / group;
       define Origin / across;
run;
```

```
proc report data=cars nowd;
column Make Origin,(MSRP MPG_City);
       define Make / group;
       define Origin / across;
       define msrp / sum;
       define MPG_City/ sum;
run;
```

| Make       | Origin    |            |           |            |           |            |
|------------|-----------|------------|-----------|------------|-----------|------------|
|            | Asia      |            | Europe    |            | USA       |            |
|            | MSRP      | MPG (City) | MSRP      | MPG (City) | MSRP      | MPG (City) |
| Acura      | \$300,570 | 136        | .         | .          | .         | .          |
| Audi       | .         | .          | \$822,850 | 351        | .         | .          |
| BMW        | .         | .          | \$865,705 | 374        | .         | .          |
| Buick      | .         | .          | .         | .          | \$274,840 | 170        |
| Cadillac   | .         | .          | .         | .          | \$403,795 | 132        |
| Chevrolet  | .         | .          | .         | .          | \$717,850 | 531        |
| Chrysler   | .         | .          | .         | .          | \$408,780 | 298        |
| Dodge      | .         | .          | .         | .          | \$341,300 | 252        |
| Ford       | .         | .          | .         | .          | \$552,365 | 443        |
| GMC        | .         | .          | .         | .          | \$236,484 | 123        |
| Honda      | \$364,390 | 473        | .         | .          | .         | .          |
| Hummer     | .         | .          | .         | .          | \$49,995  | 10         |
| Hyundai    | \$209,718 | 276        | .         | .          | .         | .          |
| Infiniti   | \$288,560 | 138        | .         | .          | .         | .          |
| Isuzu      | \$52,298  | 32         | .         | .          | .         | .          |
| Jaguar     | .         | .          | \$738,965 | 210        | .         | .          |
| Jeep       | .         | .          | .         | .          | \$73,555  | 52         |
| Kia        | \$174,635 | 241        | .         | .          | .         | .          |
| Land Rover | .         | .          | \$137,495 | 42         | .         | .          |
| Lexus      | \$486,370 | 192        | .         | .          | .         | .          |
| Lincoln    | .         | .          | .         | .          | \$385,880 | 151        |
| MINI       | .         | .          | \$36,998  | 53         | .         | .          |
| Mazda      | \$239,478 | 236        | .         | .          | .         | .          |

# Summarize (other statistics)

```
proc report data=cars nowd;
column Make Origin, (MSRP MPG_City);
  define Make / group;
  define Origin / across;
  define msrp / median;
  define MPG_City / Mean;
run;
```



Other statistics:

Mean, Median, Std

P90, Min, Max Sum ,

CV (coefficient of variation), T, PrT

Any summary statistics obtainable  
in Proc Means.

| Make      | Origin   |            |          |            |          |            |
|-----------|----------|------------|----------|------------|----------|------------|
|           | Asia     |            | Europe   |            | USA      |            |
| Make      | MSRP     | MPG (City) | MSRP     | MPG (City) | MSRP     | MPG (City) |
| Acura     | \$36,945 | 19.428571  | .        | .          | .        | .          |
| Audi      | .        | .          | \$40,590 | 18.473684  | .        | .          |
| BMW       | .        | .          | \$38,995 | 18.7       | .        | .          |
| Buick     | .        | .          | .        | .          | \$28,345 | 18.888889  |
| Cadillac  | .        | .          | .        | .          | \$49,275 | 16.5       |
| Chevrolet | .        | .          | .        | .          | \$23,495 | 19.666667  |
| Chrysler  | .        | .          | .        | .          | \$26,860 | 19.866667  |
| Dodge     | .        | .          | .        | .          | \$20,300 | 19.384615  |
| Ford      | .        | .          | .        | .          | \$22,515 | 19.26087   |
| GMC       | .        | .          | .        | .          | \$27,520 | 15.375     |
| Honda     | \$19,860 | 27.823529  | .        | .          | .        | .          |
| Hummer    | .        | .          | .        | .          | \$49,995 | 10         |
| Hyundai   | \$17,064 | 23         | .        | .          | .        | .          |
| Infiniti  | \$33,670 | 17.25      | .        | .          | .        | .          |
| Isuzu     | \$26,149 | 16         | .        | .          | .        | .          |
| Jaguar    | .        | .          | \$66,058 | 17.5       | .        | .          |
| Jeep      | .        | .          | .        | .          | \$25,520 | 17.333333  |



# Who needs Proc means when you can do this

```
proc report data=cars(obs=50) nowd;  
  Title "MSRP Summary Statistics";  
  column Make MSRP MSRP = MSRPN MSRP = MSRPmean  
           MSRP = MSRPstd MSRP = MSRPmin MSRP = MSRPmax;  
  define Make / Group;  
  define MSRP / analysis sum noprint "Sum";  
  define MSRPN / analysis N "N" format=2.;  
  define MSRPmean / analysis mean "Mean";  
  define MSRPstd / analysis std "Std. Dev.";  
  define MSRPmin / analysis min "Min";  
  define MSRPmax / analysis max "Max";  
  
run;
```

| Make  | N  | Mean     | Std. Dev. | Min      | Max      |
|-------|----|----------|-----------|----------|----------|
| Acura | 7  | \$42,939 | \$22,189  | \$23,820 | \$89,765 |
| Audi  | 19 | \$43,308 | \$13,534  | \$25,940 | \$84,600 |
| BMW   | 20 | \$43,285 | \$12,460  | \$28,495 | \$73,195 |
| Buick | 4  | \$28,273 | \$6,732   | \$22,180 | \$37,895 |

# Summary Statistics under a transposed variable

```
proc report data=cars(obs=50) nowd;  
  column Make origin, (MSRP MSRP=MSRPN MSRP=MSRPmean MSRP=MSRPstd);  
  define Make / Group;  
  define origin / across;  
  define MSRP / analysis sum noprint "Sum";  
  define MSRPN / analysis N "N" format=2.;  
  define MSRPmean / analysis mean "Mean";  
  define MSRPstd / analysis std "Std. Dev.";  
  
run;
```

|       | Origin |          |           |        |          |           |     |          |           |
|-------|--------|----------|-----------|--------|----------|-----------|-----|----------|-----------|
|       | Asia   |          |           | Europe |          |           | USA |          |           |
| Make  | N      | Mean     | Std. Dev. | N      | Mean     | Std. Dev. | N   | Mean     | Std. Dev. |
| Acura | 7      | \$42,939 | \$22,189  | .      | .        | .         | .   | .        | .         |
| Audi  | .      | .        | .         | 19     | \$43,308 | \$13,534  | .   | .        | .         |
| BMW   | .      | .        | .         | 20     | \$43,285 | \$12,460  | .   | .        | .         |
| Buick | .      | .        | .         | .      | .        | .         | 4   | \$28,273 | \$6,732   |



# Highlighting values

```

proc format;
  value scoreTwo
    0 < - 15 = 'lightgreen'
    20 - 26 = 'lightred';
run;
proc report data=cars nowd;
  column Make Origin, (MSRP MPG_City);
  define Make / group;
  define Origin / across;
  define msrp / mean;
  define MPG_city / median;
  compute MPG_City;
    call define
  (_col_, 'style', "STYLE=[BACKGROUND=scoretwo.]");
  endcomp;
run;

```

| Make       | Origin   |            |          |            |          |            |
|------------|----------|------------|----------|------------|----------|------------|
|            | Asia     |            | Europe   |            | USA      |            |
|            | MSRP     | MPG (City) | MSRP     | MPG (City) | MSRP     | MPG (City) |
| Acura      | \$42,939 | 18         | .        | .          | .        | .          |
| Audi       | .        | .          | \$43,308 | 18         | .        | .          |
| BMW        | .        | .          | \$43,285 | 19         | .        | .          |
| Buick      | .        | .          | .        | .          | \$30,538 | 20         |
| Cadillac   | .        | .          | .        | .          | \$50,474 | 17.5       |
| Chevrolet  | .        | .          | .        | .          | \$26,587 | 19         |
| Chrysler   | .        | .          | .        | .          | \$27,252 | 21         |
| Dodge      | .        | .          | .        | .          | \$26,254 | 18         |
| Ford       | .        | .          | .        | .          | \$24,016 | 18         |
| GMC        | .        | .          | .        | .          | \$29,561 | 15.5       |
| Honda      | \$21,435 | 26         | .        | .          | .        | .          |
| Hummer     | .        | .          | .        | .          | \$49,995 | 10         |
| Hyundai    | \$17,477 | 23         | .        | .          | .        | .          |
| Infiniti   | \$36,070 | 17.5       | .        | .          | .        | .          |
| Isuzu      | \$26,149 | 16         | .        | .          | .        | .          |
| Jaguar     | .        | .          | \$61,580 | 18         | .        | .          |
| Jeep       | .        | .          | .        | .          | \$24,518 | 16         |
| Kia        | \$15,876 | 24         | .        | .          | .        | .          |
| Land Rover | .        | .          | \$45,832 | 12         | .        | .          |



```

proc format;
    value scoreTwo
    0 < - .001 = 'lightgreen'
    .001 < - .05 = 'lightred';
run;
proc report data=cars(obs=50) nowd;
    column Make origin, (MSRP MSRP = MSRPN MSRP = MSRPmean MSRP = MSRPprt);
    define Make / Group;
    define origin / across;
    define MSRP / analysis sum noprint "Sum";
    define MSRPN / analysis N "N" format=2.;
    define MSRPmean / analysis mean "Mean";
    define MSRPprt / analysis prt format=pvalue. "P-value";
    compute MSRPprt;
        call define (_col_, 'style', "STYLE=[BACKGROUND=scoretwo.]") ;
    endcomp;
run;

```

|       | Origin |          |         |        |          |         |     |          |         |
|-------|--------|----------|---------|--------|----------|---------|-----|----------|---------|
|       | Asia   |          |         | Europe |          |         | USA |          |         |
| Make  | N      | Mean     | P-value | N      | Mean     | P-value | N   | Mean     | P-value |
| Acura | 7      | \$42,939 | 0.0022  | .      | .        | .       | .   | .        | .       |
| Audi  | .      | .        | .       | 19     | \$43,308 | 0.0001  | .   | .        | .       |
| BMW   | .      | .        | .       | 20     | \$43,285 | 0.0001  | .   | .        | .       |
| Buick | .      | .        | .       | .      | .        | .       | 4   | \$28,273 | 0.0035  |

# Back to Editorial Display

- The following can be targeted both in groups or individually
  - Headers: Denotes all column headers, including spanned headers.
  - Columns: Denotes the cells in all the columns
  - Report: Denotes the structural, or underlying, part of the report
  - Lines: Denotes all LINE statements in all COMPUTE blocks
  - Summary: Denotes all of the default summary lines that are produced by a BREAK or an RBREAK statement
- Each of the above can be edited in:
  - Border
  - Font
  - Background
  - Colors
  - More



```

proc report data = Cars(obs=10) nowd
  style(report)=[background=green
  style(column)=[background=yellow]
  style(header)=[background=pink];

  column      (" "(Make)) (Type model Origin,(MSRP Invoice));

  Define Make /"Make /(1)" group order=data ;
  define model /"Model /(3)" display ;
  define Type /"Type /(2)" group ;
  define Origin /"Origin /(4)" across ;
  define MSRP /"MSRP /(5)" display ;
  define INVOICE /"Invoice /(6)";

```

```
run;
```

|             |             |                         | Origin<br>(4) |                |             |                |
|-------------|-------------|-------------------------|---------------|----------------|-------------|----------------|
|             |             |                         | Asia          |                | Europe      |                |
| Make<br>(1) | Type<br>(2) | Model<br>(3)            | MSRP<br>(5)   | Invoice<br>(6) | MSRP<br>(5) | Invoice<br>(6) |
| Acura       | SUV         | MDX                     | \$36,945      | \$33,337       | .           | .              |
|             | Sedan       | RSX Type S 2dr          | \$23,820      | \$21,761       | .           | .              |
|             |             | TSX 4dr                 | \$26,990      | \$24,647       | .           | .              |
|             |             | TL 4dr                  | \$33,195      | \$30,299       | .           | .              |
|             |             | 3.5 RL 4dr              | \$43,755      | \$39,014       | .           | .              |
|             |             | 3.5 RL w/Navigation 4dr | \$46,100      | \$41,100       | .           | .              |
|             | Sports      | NSX coupe 2dr manual S  | \$89,765      | \$79,978       | .           | .              |
| Audi        | Sedan       | A4 1.8T 4dr             | .             | .              | \$25,940    | \$23,508       |
|             |             | A41.8T convertible 2dr  | .             | .              | \$35,940    | \$32,506       |
|             |             | A4 3.0 4dr              | .             | .              | \$31,840    | \$28,846       |



```

proc report data = Cars(obs=10) nowd
  style(report)=[background=green cellspacing=10]
  style(column)=[background=yellow]
  style(header)=[background=pink];

  column      (" "(Make)) (Type model Origin,(MSRP Invoice));

  Define Make /"Make /(1)" group order=data ;
  define model /"Model /(3)" display ;
  define Type /"Type /(2)" group ;
  define Origin /"Origin /(4)" across ;
  define MSRP /"MSRP /(5)" display ;
  define INVOICE /"Invoice /(6)";

run;

```


cellspacing /\* the space between table cells, allows background to show \*/

|          |          |                         | Origin (4) |             |          |             |
|----------|----------|-------------------------|------------|-------------|----------|-------------|
|          |          |                         | Asia       |             | Europe   |             |
| Make (1) | Type (2) | Model (3)               | MSRP (5)   | Invoice (6) | MSRP (5) | Invoice (6) |
| Acura    | SUV      | MDX                     | \$36,945   | \$33,337    | .        | .           |
|          | Sedan    | RSX Type S 2dr          | \$23,820   | \$21,761    | .        | .           |
|          |          | TSX 4dr                 | \$26,990   | \$24,647    | .        | .           |
|          |          | TL 4dr                  | \$33,195   | \$30,299    | .        | .           |
|          |          | 3.5 RL 4dr              | \$43,755   | \$39,014    | .        | .           |
|          |          | 3.5 RL w/Navigation 4dr | \$46,100   | \$41,100    | .        | .           |
|          | Sports   | NSX coupe 2dr manual S  | \$89,765   | \$79,978    | .        | .           |
| Audi     | Sedan    | A4 1.8T 4dr             | .          | .           | \$25,940 | \$23,508    |
|          |          | A41.8T convertible 2dr  | .          | .           | \$35,940 | \$32,506    |
|          |          | A4 3.0 4dr              | .          | .           | \$31,840 | \$28,846    |

# Edit Groups of Columns

```
frame = box /* outside borders: void, box, above/below, vsides/hsides, lhs/rhs */
rules = all /* internal borders: none, all, cols, rows, groups */
cellpadding = 4pt /* the space between table cell contents and the cell border */
background = color_list('bgT') /* table background color */
```

```
proc report data = Cars(obs=10) nowd
  style (header)=[borderstyle=solid
    just=center
    font_face=Arial
    font_size=8pt
    background=white
    cellpadding=12
    borderbottomcolor=black ]
  style(report) =[borderstyle=solid
    frame=box
    font_face=Arial
    font_size=8pt
    just=left
    cellpadding=2 ]
  style (column)=[borderstyle=solid
    just=center
    font_face=Arial
    font_size=8pt
    background=white
    borderbottomwidth=1pt
    bordertopcolor=black];
```



|             |             |                         | Origin<br>(4) |                |             |                |
|-------------|-------------|-------------------------|---------------|----------------|-------------|----------------|
|             |             |                         | Asia          |                | Europe      |                |
| Make<br>(1) | Type<br>(2) | Model<br>(3)            | MSRP<br>(5)   | Invoice<br>(6) | MSRP<br>(5) | Invoice<br>(6) |
| Acura       | SUV         | MDX                     | \$36,945      | \$33,337       | .           | .              |
|             | Sedan       | RSX Type S 2dr          | \$23,820      | \$21,761       | .           | .              |
|             |             | TSX 4dr                 | \$26,990      | \$24,647       | .           | .              |
|             |             | TL 4dr                  | \$33,195      | \$30,299       | .           | .              |
|             |             | 3.5 RL 4dr              | \$43,755      | \$39,014       | .           | .              |
|             |             | 3.5 RL w/Navigation 4dr | \$46,100      | \$41,100       | .           | .              |
|             | Sports      | NSX coupe 2dr manual S  | \$89,765      | \$79,978       | .           | .              |
| Audi        | Sedan       | A4 1.8T 4dr             | .             | .              | \$25,940    | \$23,508       |
|             |             | A4 1.8T convertible 2dr | .             | .              | \$35,940    | \$32,506       |
|             |             | A4 3.0 4dr              | .             | .              | \$31,840    | \$28,846       |



# Edit Individual Columns

```

define Make /"Make /(1)" group order=data
    style(column)=[cellwidth=1.0in just=left ] missing;
define model /"Model /(3)" display
    style(column)=[cellwidth=1.0in just=left] missing;
define Type /"Type /(2)" group
    style(column)=[cellwidth=1.0in just=left] missing;
define Origin /"Origin /(4)" across style(column)=[cellwidth=1.0in];
define MSRP /"MSRP /(5)" display style(column)=[cellwidth=1.0in];
define INVOICE /"Invoice /(6)" style(column)=[cellwidth=1.0in];
    
```

|             |             |                            | Origin<br>(4) |                |             |                |
|-------------|-------------|----------------------------|---------------|----------------|-------------|----------------|
|             |             |                            | Asia          |                | Europe      |                |
| Make<br>(1) | Type<br>(2) | Model<br>(3)               | MSRP<br>(5)   | Invoice<br>(6) | MSRP<br>(5) | Invoice<br>(6) |
| Acura       | SUV         | MDX                        | \$36,945      | \$33,337       | .           | .              |
|             | Sedan       | RSX Type S 2dr             | \$23,820      | \$21,761       | .           | .              |
|             |             | TSX 4dr                    | \$26,990      | \$24,647       | .           | .              |
|             |             | TL 4dr                     | \$33,195      | \$30,299       | .           | .              |
|             |             | 3.5 RL 4dr                 | \$43,755      | \$39,014       | .           | .              |
|             |             | 3.5 RL<br>w/Navigation 4dr | \$46,100      | \$41,100       | .           | .              |
|             | Sports      | NSX coupe 2dr<br>manual S  | \$89,765      | \$79,978       | .           | .              |
| Audi        | Sedan       | A4 1.8T 4dr                | .             | .              | \$25,940    | \$23,508       |
|             |             | A4 1.8T<br>convertible 2dr | .             | .              | \$35,940    | \$32,506       |
|             |             | A4 3.0 4dr                 | .             | .              | \$31,840    | \$28,846       |



# Questions??

