Homework#8 – Solution

Exercises 1 & 2:

```
* HW 8;
libname Learn 'J:\CLASSES\STAT46';
*Exercise 1;
data Mountain_USA Road_France;
    set Learn.bicycles;
    if Country = 'USA' and Model ='Mountain Bike' then output Mountain_USA;
    else if Country = 'France' and Model = 'Road Bike' then output Road_France;
run;

title 'Listing Mountain_USA';
proc print data=Mountain_USA noobs;
run;
title 'Listing Road_France';
proc print data=Road_France noobs;
run;

*Exercise 2;

proc sort data=learn.inventory;
    by price;
run;
proc sort data=Learn.NewProducts;
    by price;
run;
data Updated;
    set learn.inventory learn.newproducts;
    by price;
run;

title 'listing Updated';
proc print data=Updated;
run;
```

Log:

```
3    *Exercise 1;
4    data Mountain_USA Road_France;
5        set Learn.bicycles;
6        if Country = 'USA' and Model ='Mountain Bike' then output Mountain_USA;
7        else if Country = 'France' and Model = 'Road Bike' then output Road_France;
8    run;

NOTE: There were 18 observations read from the data set LEARN.BICYCLES.
NOTE: The data set WORK.MOUNTAIN_USA has 2 observations and 6 variables.
NOTE: The data set WORK.ROAD_FRANCE has 2 observations and 6 variables.
NOTE: DATA statement used (Total process time):
      real time           0.58 seconds
      cpu time            0.04 seconds


9
10   title 'Listing Mountain_USA';
11   proc print data=Mountain_USA noobs;
NOTE: Writing HTML Body file: sashtml.htm
12   run;

NOTE: There were 2 observations read from the data set WORK.MOUNTAIN_USA.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           1.60 seconds
      cpu time            0.29 seconds


13   title 'Listing Road_France';
14   proc print data=Road_France noobs;
15   run;

NOTE: There were 2 observations read from the data set WORK.ROAD_FRANCE.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds
```

```
17   *Exercise 2;
18
19   proc sort data=learn.inventory;
20       by price;
21   run;

NOTE: There were 6 observations read from the data set LEARN.INVENTORY.
NOTE: The data set LEARN.INVENTORY has 6 observations and 2 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.23 seconds
      cpu time            0.01 seconds


22   proc sort data=Learn.NewProducts;
23       by price;
24   run;

NOTE: There were 2 observations read from the data set LEARN.NEWPRODUCTS.
NOTE: The data set LEARN.NEWPRODUCTS has 2 observations and 2 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.07 seconds
      cpu time            0.01 seconds


25   data Updated;
26       set learn.inventory learn.newproducts;
27       by price;
28   run;

NOTE: There were 6 observations read from the data set LEARN.INVENTORY.
NOTE: There were 2 observations read from the data set LEARN.NEWPRODUCTS.
NOTE: The data set WORK.UPDATED has 8 observations and 2 variables.
NOTE: DATA statement used (Total process time):
      real time           0.08 seconds
      cpu time            0.01 seconds


29
30   title 'listing Updated';
31   proc print data=Updated;
32   run;

NOTE: There were 8 observations read from the data set WORK.UPDATED.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds
```

Output:

Listing Mountain_USA

Country	Model	Manuf	Units	UnitCost	TotalSales
USA	Mountain Bike	Trek	6000	$1,200	$7,200
USA	Mountain Bike	Cannondale	4000	$2,700	$10,800

Listing Road_France

Country	Model	Manuf	Units	UnitCost	TotalSales
France	Road Bike	Trek	3400	$2,500	$8,500
France	Road Bike	Cannondale	900	$3,700	$3,330

Exercise#2 - Output

listing Updated

Obs	Model	Price
1	M135	$0.75
2	S776	$1.99
3	M123	$4.59
4	L939	$10.99
5	S888	$12.99
6	M567	$23.50
7	X999	$29.95
8	L776	$159.98

```
*Exercise #3;
data Markup;
     input Manuf : $10. Markup;
datalines;
Cannondale 1.05
Trek 1.07
;
run;

proc sort data=Learn.bicycles out=bicycles;
     BY MANUF;
run;

data Markup_Price;
     merge Markup
           Bicycles;
     by Manuf;
     NewTotal = Totalsales * Markup;
run;

title 'Listing Markup_Price';
proc print data=Markup_Price;
format NewTotal Dollar9.;
run;
```

Log:

```
88  *Exercise #3;
89  data Markup;
90       input Manuf : $10. Markup;
91  datalines;

OTE: The data set WORK.MARKUP has 2 observations and 2 variables.
OTE: DATA statement used (Total process time):
     real time           0.00 seconds
     cpu time            0.00 seconds


94  ;
95  run;
96
97  proc sort data=Learn.bicycles out=bicycles;
98       BY MANUF;
99  run;

OTE: There were 18 observations read from the data set LEARN.BICYCLES.
OTE: The data set WORK.BICYCLES has 18 observations and 6 variables.
OTE: PROCEDURE SORT used (Total process time):
     real time           0.02 seconds
     cpu time            0.00 seconds


00
01  data Markup_Price;
02       merge Markup
03             Bicycles;
04       by Manuf;
05       NewTotal = Totalsales * Markup;
06  run;

OTE: There were 2 observations read from the data set WORK.MARKUP.
OTE: There were 18 observations read from the data set WORK.BICYCLES.
OTE: The data set WORK.MARKUP_PRICE has 18 observations and 8 variables.
OTE: DATA statement used (Total process time):
     real time           0.01 seconds
     cpu time            0.01 seconds




207
208  title 'Listing Markup_Price';
209  proc print data=Markup_Price;
NOTE: Writing HTML Body file: sashtml2.htm
210  format NewTotal Dollar9.;
211  run;

NOTE: There were 18 observations read from the data set WORK.MARKUP_PRICE.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.39 seconds
      cpu time            0.23 seconds
```

Output

Listing Markup_Price

Obs	Manuf	Markup	Country	Model	Units	UnitCost	TotalSales	NewTotal
1	Cannondale	1.05	USA	Road Bike	2000	$2,100	$4,200	$4,410
2	Cannondale	1.05	USA	Mountain Bike	4000	$2,700	$10,800	$11,340
3	Cannondale	1.05	France	Road Bike	900	$3,700	$3,330	$3,497
4	Cannondale	1.05	France	Mountain Bike	800	$1,899	$1,519	$1,595
5	Cannondale	1.05	United Kingdom	Road Bike	1200	$2,123	$2,548	$2,675
6	Cannondale	1.05	United Kingdom	Hybrid	500	$880	$440	$462
7	Trek	1.07	USA	Road Bike	5000	$2,200	$11,000	$11,770
8	Trek	1.07	USA	Mountain Bike	6000	$1,200	$7,200	$7,704
9	Trek	1.07	USA	Hybrid	4500	$650	$2,925	$3,130
10	Trek	1.07	France	Road Bike	3400	$2,500	$8,500	$9,095
11	Trek	1.07	France	Mountain Bike	5600	$1,300	$7,280	$7,790
12	Trek	1.07	France	Hybrid	1100	$540	$594	$636
13	Trek	1.07	United Kingdom	Road Bike	2444	$2,100	$5,132	$5,492
14	Trek	1.07	United Kingdom	Hybrid	800	$490	$392	$419
15	Trek	1.07	United Kingdom	Mountain Bike	1211	$1,121	$1,358	$1,453
16	Trek	1.07	Italy	Hybrid	700	$690	$483	$517
17	Trek	1.07	Italy	Road Bike	4500	$2,890	$13,005	$13,915
18	Trek	1.07	Italy	Mountain Bike	3400	$1,877	$6,382	$6,829

```
*Exercise #4;

proc sort data=Learn.Inventory;
     by Model;
run;
proc sort data=Learn.Purchase;
     by Model;
run;
data Not_Purchased;
     merge Learn.Inventory (in=in_inventory)
           Learn.Purchase (in=in_purchase);
     by Model;
     if in_inventory and not in_purchase;
     Keep Model Price;
run;

title 'Listing of Not_Purchased';
proc print data=Not_Purchased;
run;
```

```
50   proc sort data=Learn.Inventory;
51       by Model;
52   run;

NOTE: There were 6 observations read from the data set LEARN.INVENTORY.
NOTE: The data set LEARN.INVENTORY has 6 observations and 2 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.05 seconds
      cpu time            0.00 seconds


53   proc sort data=Learn.Purchase;
54       by Model;
55   run;

NOTE: There were 4 observations read from the data set LEARN.PURCHASE.
NOTE: The data set LEARN.PURCHASE has 4 observations and 3 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.07 seconds
      cpu time            0.01 seconds


56   data Not_Purchased;
57       merge Learn.Inventory (in=in_inventory)
58             Learn.Purchase (in=in_purchase);
59       by Model;
60       if in_inventory and not in_purchase;
61       Keep Model Price;
62   run;

NOTE: There were 6 observations read from the data set LEARN.INVENTORY.
NOTE: There were 4 observations read from the data set LEARN.PURCHASE.
NOTE: The data set WORK.NOT_PURCHASED has 2 observations and 2 variables.
NOTE: DATA statement used (Total process time):
      real time           0.04 seconds
      cpu time            0.01 seconds


73
74   title 'Listing of Not_Purchased';
75   proc print data=Not_Purchased;
76   run;

NOTE: There were 2 observations read from the data set WORK.NOT_PURCHASED.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.01 seconds
```

Listing of Not_Purchased

Obs	Model	Price
1	S776	$1.99
2	S888	$12.99