#### **Execution Environment**

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File: /home/u59397413/BAN 130/Project\_BAN130.sas SAS Platform: Linux LIN X64 3.10.0-1062.9.1.el7.x86\_64

SAS Host: ODAWS02-USW2.ODA.SAS.COM

SAS Version: 9.04.01M6P11072018

SAS Locale: en US

Submission Time: 12/27/2021, 3:43:50 PM

Browser Host: CPEC09435E4AB5B-CMC09435E4AB59.CPE.NET.CABLE.ROGERS.COM

User Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/96.0.4664.110 Safari/537.36 Edg/96.0.1054.62

Application Server: ODAMID00-USW2.ODA.SAS.COM

#### Code: Project BAN130.sas

```
/*Part 1*/:
/*Importing Product Sheet and SalesOrderDetail Sheet*/;
libname mylib '/home/u59397413/BAN 130';
proc import
datafile='/home/u59397413/BAN 130/AdventureWorks.xlsx'
dbms=x1sx
out=mylib.AdventureWorks Product replace;
Sheet=Product;
Getnames=Yes;
title 'Importing Product Sheet';
proc print data=mylib.AdventureWorks_Product (obs=5);
run;
proc import
datafile='/home/u59397413/BAN 130/AdventureWorks.xlsx'
dbms=xlsx
out=mylib.AdventureWorks Sales replace;
Sheet=SalesOrderDetail;
Getnames=Yes;
title 'Importing SalesOrderDetail Sheet';
proc print data=mylib.AdventureWorks_Sales (obs=5);
run;
/*Part 2*/;
/*Data Cleaning of Product Sheet*/;
data Product_Clean;
set mylib.AdventureWorks Product (drop=MakeFlag FinishedGoodsFlag
SafetyStockLevel ReorderPoint StandardCost Size SizeUnitMeasureCode WeightUnitMeasureCode
Weight DaysToManufacture ProductLine Class Style ProductSubcategoryID ProductModelID
SellStartDate SellEndDate DiscontinuedDate rowguid ModifiedDate);
if Color='' then do; Color='NA';
new_ListPrice=input(ListPrice,8.);
rename ListPrice=ListPrice Char;
```

```
rename new ListPrice=ListPrice;
data Product Clean:
set Product Clean (drop=ListPrice Char);
format ListPrice Dollar8.2;
title 'Cleaned Data of Prodcut Sheet';
proc print data=Product Clean (obs=10) noobs;
run:
/*Data Cleaning of SalesOrderDetail Sheet*/;
data SalesOrderDetail Clean:
set mylib.AdventureWorks Sales (drop=CarrierTrackingNumber SpecialOfferID
UnitPriceDiscount rowguid);
new ModifiedDate=put(ModifiedDate,ddmmyyyy10.);
rename ModifiedDate=ModifiedDate Char;
rename new ModifiedDate=ModifiedDate;
new UnitPrice=input(UnitPrice.8.2);
rename UnitPrice=UnitPrice Char;
rename new UnitPrice=UnitPrice;
new LineTotal=input(LineTotal,8.2);
rename LineTotal=LineTotal Char;
rename new LineTotal=LineTotal;
new OrderQty=input(OrderQty,8.);
rename OrderQty=OrderQty Char;
rename new_OrderQty=OrderQty;
run;
data SalesOrderDetail Clean;
set SalesOrderDetail Clean;
where '2013-01-01' <= ModifiedDate <= '2014-12-31';</pre>
format ModifiedDate2 date9.;
ModifiedDate2 = input(ModifiedDate, anydtdte10.);
rename ModifiedDate=ModifiedDate Char1:
rename ModifiedDate2=ModifiedDate;
run;
Data SalesOrderDetail Clean:
set SalesOrderDetail Clean(Drop= UnitPrice Char LineTotal Char OrderOty Char ModifiedDate Char ModifiedDate Char1);
format ModifiedDate mmddyy10.
UnitPrice Dollar8.2
LineTotal Dollar8.2;
run;
title 'Cleaned Data of SalesOrder Sheet';
proc print data=SalesOrderDetail_Clean (obs=10);
run;
/*Part 3*/;
/*Merging the datasets*/;
proc sort data=Product Clean; by ProductID;
proc sort data=SalesOrderDetail Clean; by ProductID;
data SalesDetails;
merge Product Clean(in=P1) SalesOrderDetail Clean(in=P2);
by ProductID;
if P1=1 and P2=1;
```

```
run:
data SalesDetails:
set SalesDetails(Drop=SalesOrderID SalesOrderDetailID ProductNumber ListPrice);
title 'Merged Data';
proc print data=SalesDetails (obs=10);
data SalesAnalysis;
set SalesDetails;
retain SubTotal;
by ProductID;
if First.ProductID then SubTotal=LineTotal;
else SubTotal=SubTotal+LineTotal;
if Last.ProductId:
run;
title 'Sales Analysis with SubTotal Value';
proc print data=SalesAnalysis(obs=10);
run;
/*Part 4*/:
/*Data Analysis*/;
data SalesAnalysis1;
set SalesDetails ;
retain QtyTotal;
by ProductID;
if First.ProductID then QtyTotal=OrderQty;
else QtyTotal=QtyTotal+OrderQty;
if Last.ProductId;
TotSale=UnitPrice*QtyTotal;
run;
title 'Answer1: Red color Helmets sold in 2013 and 2014';
proc print data=SalesAnalysis1 Noobs;
var Name QtyTotal;
where Name='Sport-100 Helmet, Red';
run;
title 'Answer2: Number of Items sold in 2013 and 2014 have a Multi color';
proc print data=SalesAnalysis1 Noobs;
var Name Color OtyTotal;
sum QtyTotal;
where Color='Multi';
run;
title 'Answer3: The combined Sales total for all the helmets sold in 2013 and 2014';
proc print data=SalesAnalysis1 Noobs;
var Name:
sum QtyTotal;
where Name in ('Sport-100 Helmet, Red', 'Sport-100 Helmet, Black',
'Sport-100 Helmet, Blue');
run;
title 'Answer4: The number of Yellow Color Touring-1000 sold in 2013 and 2014';
proc print data=SalesAnalysis1 Noobs;
var Name;
```

```
sum OtvTotal:
where Name in ('Touring-1000 Yellow, 46', 'Touring-1000 Yellow, 50',
'Touring-1000 Yellow, 54', 'Touring-1000 Yellow, 60');
title 'Total sales in 2013 and 2014';
proc print data=SalesAnalysis1 Noobs;
Var Name:
sum TotSale;
run;
title 'Bar Chart on the Color of the Items';
proc gchart data=SalesAnalysis1;
vbar Color;
run:
/*Part 4-Data Analysis-Year wise answers*/:
Title 'The number of Red color Helmets sold in 2013 and 2014';
proc sql;
create table Red as
select Name, year(ModifiedDate) as Year, sum(QtyTotal) as Red Count from SalesAnalysis1
where Name='Sport-100 Helmet, Red'
group by Year;
quit;
proc print data=Red;
run;
Title 'The number of items sold in 2013 and 2014 of Multi color';
proc sal:
create table Multi as
select year(ModifiedDate) as Year, sum(OtyTotal) as Multi Count from SalesAnalysis1
where Color='Multi'
group by Year;
quit;
proc print data=Multi;
run;
Title 'The combined Sales total for all the helmets sold in 2013 and 2014';
proc sal:
create table Helmets as
select year(ModifiedDate) as Year, sum(OtyTotal) as Helmet Count from SalesAnalysis1
where Name in ('Sport-100 Helmet, Red', 'Sport-100 Helmet, Black',
'Sport-100 Helmet, Blue')
group by Year;
quit;
proc print data=Helmets;
run;
Title 'The number of Yellow Color Touring-1000 sold in 2013 and 2014';
proc sql;
create table Yellow as
select year(ModifiedDate) as Year, sum(OtyTotal) as Yellow Count from SalesAnalysis1
where Name in ('Touring-1000 Yellow, 46', 'Touring-1000 Yellow, 50',
'Touring-1000 Yellow, 54', 'Touring-1000 Yellow, 60')
group by Year:
quit:
```

```
proc print data=Yellow;
run;

Title 'The total sales in 2013 and 2014';
proc sql;
create table Sales as
select _vear(ModifiedDate) as Year _sum(OtvTotal*UnitPrice) as Total Sales from SalesAnalysis1
```

### Log: Project BAN130.sas

```
Notes (90)
1
           OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
NOTE: ODS statements in the SAS Studio environment may disable some output features.
69
70
           /*Part 1*/;
71
           /*Importing Product Sheet and SalesOrderDetail Sheet*/:
72
           libname mylib '/home/u59397413/BAN 130';
NOTE: Libref MYLIB was successfully assigned as follows:
      Engine:
      Physical Name: /home/u59397413/BAN 130
73
           proc import
            datafile='/home/u59397413/BAN 130/AdventureWorks.xlsx'
74
75
            dbms=xlsx
            out=mylib.AdventureWorks Product replace;
76
77
            Sheet=Product;
78
            Getnames=Yes;
79
           run:
NOTE: One or more variables were converted because the data type is not supported by the V9 engine. For more details, run with
      options MSGLEVEL=I.
NOTE: The import data set has 504 observations and 25 variables.
NOTE: MYLIB.ADVENTUREWORKS_PRODUCT data set was successfully created.
NOTE: PROCEDURE IMPORT used (Total process time):
                          1.15 seconds
      real time
      user cpu time
                          1.07 seconds
      system cpu time
                         0.05 seconds
      memory
                          77180.25k
      OS Memory
                          110192.00k
      Timestamp
                          12/27/2021 08:43:35 PM
                                        24 Switch Count 2
      Step Count
      Page Faults
                                        0
      Page Reclaims
                                        20023
      Page Swaps
                                        0
      Voluntary Context Switches
                                        44
      Involuntary Context Switches
                                        2
      Block Input Operations
                                        9904
      Block Output Operations
                                        264
80
           title 'Importing Product Sheet';
           proc print data=mylib.AdventureWorks Product (obs=5);
81
82
           run;
NOTE: There were 5 observations read from the data set MYLIB.ADVENTUREWORKS PRODUCT.
NOTE: PROCEDURE PRINT used (Total process time):
      real time
                          0.03 seconds
      user cpu time
                          0.04 seconds
      system cpu time
                          0.00 seconds
      memory
                          1582.25k
      OS Memory
                          26276.00k
```

```
Timestamp
                         12/27/2021 08:43:35 PM
     Step Count
                                       25 Switch Count 0
     Page Faults
                                       0
     Page Reclaims
                                       522
     Page Swaps
                                       0
     Voluntary Context Switches
                                       9
     Involuntary Context Switches
                                       a
     Block Input Operations
                                       288
     Block Output Operations
                                       8
83
          proc import
           datafile='/home/u59397413/BAN 130/AdventureWorks.xlsx'
84
85
           dbms=xlsx
           out=mylib.AdventureWorks Sales replace;
86
87
           Sheet=SalesOrderDetail:
88
           Getnames=Yes;
89
          run;
NOTE: One or more variables were converted because the data type is not supported by the V9 engine. For more details, run with
     options MSGLEVEL=I.
NOTE: The import data set has 121317 observations and 11 variables.
NOTE: MYLIB.ADVENTUREWORKS SALES data set was successfully created.
NOTE: PROCEDURE IMPORT used (Total process time):
     real time
                         13.81 seconds
                         13.72 seconds
     user cpu time
     system cpu time
                         0.06 seconds
                         78425.68k
     memory
     OS Memory
                         113776.00k
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       26 Switch Count 2
     Page Faults
                                       0
     Page Reclaims
                                       19759
     Page Swaps
                                       0
                                       186
     Voluntary Context Switches
     Involuntary Context Switches
                                       16
     Block Input Operations
                                       13168
     Block Output Operations
                                       26896
90
          title 'Importing SalesOrderDetail Sheet';
91
          proc print data=mylib.AdventureWorks Sales (obs=5);
92
NOTE: There were 5 observations read from the data set MYLIB.ADVENTUREWORKS SALES.
NOTE: PROCEDURE PRINT used (Total process time):
     real time
                         0.02 seconds
     user cpu time
                         0.02 seconds
     system cpu time
                         0.00 seconds
                         2142.37k
     memory
     OS Memory
                         28836.00k
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       27 Switch Count 0
     Page Faults
                                       0
     Page Reclaims
                                       276
     Page Swaps
                                       0
     Voluntary Context Switches
                                       9
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       288
     Block Output Operations
                                       16
```

```
94
95
           /*Part 2*/:
96
           /*Data Cleaning of Product Sheet*/;
97
           data Product Clean:
98
           set mylib.AdventureWorks Product (drop=MakeFlag FinishedGoodsFlag
99
           SafetyStockLevel ReorderPoint StandardCost Size SizeUnitMeasureCode WeightUnitMeasureCode
100
           Weight DaysToManufacture ProductLine Class Style ProductSubcategoryID ProductModelID
101
           SellStartDate SellEndDate DiscontinuedDate rowguid ModifiedDate);
           if Color='' then do: Color='NA':
102
103
104
           new ListPrice=input(ListPrice,8.);
105
           rename ListPrice=ListPrice Char;
106
           rename new ListPrice=ListPrice:
NOTE: There were 504 observations read from the data set MYLIB.ADVENTUREWORKS PRODUCT.
NOTE: The data set WORK.PRODUCT CLEAN has 504 observations and 6 variables.
NOTE: DATA statement used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.00 seconds
     system cpu time
                         0.00 seconds
                         964.96k
     memory
                         28584.00k
     OS Memory
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       28 Switch Count 2
     Page Faults
                                       0
     Page Reclaims
                                       157
     Page Swaps
                                       a
     Voluntary Context Switches
                                       23
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       264
107
           data Product Clean:
108
           set Product Clean (drop=ListPrice Char);
109
           format ListPrice Dollar8.2:
110
           title 'Cleaned Data of Prodcut Sheet';
111
          run;
NOTE: There were 504 observations read from the data set WORK.PRODUCT CLEAN.
NOTE: The data set WORK.PRODUCT CLEAN has 504 observations and 5 variables.
NOTE: DATA statement used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.01 seconds
     system cpu time
                         0.00 seconds
                         950.65k
     memory
     OS Memory
                         28584.00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       29 Switch Count 3
                                       0
     Page Faults
     Page Reclaims
                                       133
     Page Swaps
                                       0
     Voluntary Context Switches
                                       17
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       272
112
           proc print data=Product Clean (obs=10) noobs;
113
          run:
NOTE: There were 10 observations read from the data set WORK.PRODUCT CLEAN.
NOTE: PROCEDURE PRINT used (Total process time):
```

```
real time
                         0.01 seconds
      user cpu time
                         0.01 seconds
      system cpu time
                         0.00 seconds
      memory
                         665.37k
      OS Memory
                         28324.00k
      Timestamp
                         12/27/2021 08:43:49 PM
      Step Count
                                       30 Switch Count 0
      Page Faults
                                       0
                                       72
      Page Reclaims
      Page Swaps
                                       0
                                       0
      Voluntary Context Switches
      Involuntary Context Switches
                                       0
      Block Input Operations
                                       a
      Block Output Operations
                                       0
114
115
           /*Data Cleaning of SalesOrderDetail Sheet*/;
116
           data SalesOrderDetail Clean:
117
           set mylib.AdventureWorks Sales (drop=CarrierTrackingNumber SpecialOfferID
118
           UnitPriceDiscount rowguid);
119
           new ModifiedDate=put(ModifiedDate,ddmmyyyy10.);
                                            484
NOTE 484-185: Format $DDMMYYYY was not found or could not be loaded.
120
           rename ModifiedDate=ModifiedDate Char;
121
           rename new ModifiedDate=ModifiedDate;
122
           new UnitPrice=input(UnitPrice,8.2);
123
           rename UnitPrice=UnitPrice Char:
124
          rename new UnitPrice=UnitPrice;
125
           new LineTotal=input(LineTotal,8.2);
           rename LineTotal=LineTotal Char;
126
127
           rename new LineTotal=LineTotal;
128
           new_OrderQty=input(OrderQty,8.);
129
           rename OrderOtv=OrderOtv Char:
130
           rename new OrderQty=OrderQty;
131
          run;
NOTE: There were 121317 observations read from the data set MYLIB.ADVENTUREWORKS SALES.
NOTE: The data set WORK.SALESORDERDETAIL CLEAN has 121317 observations and 11 variables.
NOTE: DATA statement used (Total process time):
      real time
                         0.04 seconds
      user cpu time
                         0.03 seconds
      system cpu time
                         0.01 seconds
                         3585.90k
      memory
      OS Memory
                         31144.00k
     Timestamp
                         12/27/2021 08:43:49 PM
      Step Count
                                       31 Switch Count 5
      Page Faults
                                       0
      Page Reclaims
                                       542
      Page Swaps
                                       0
      Voluntary Context Switches
                                       31
      Involuntary Context Switches
                                       0
      Block Input Operations
                                       26368
      Block Output Operations
                                       23048
132
133
           data SalesOrderDetail Clean;
134
           set SalesOrderDetail Clean;
135
           where '2013-01-01' <= ModifiedDate <= '2014-12-31';
136
           format ModifiedDate2 date9.;
```

```
137
           ModifiedDate2 = input(ModifiedDate, anydtdte10.):
138
           rename ModifiedDate=ModifiedDate Char1:
139
           rename ModifiedDate2=ModifiedDate;
140
NOTE: There were 93912 observations read from the data set WORK.SALESORDERDETAIL CLEAN.
     WHERE (ModifiedDate>='2013-01-01' and ModifiedDate<='2014-12-31');
NOTE: The data set WORK.SALESORDERDETAIL CLEAN has 93912 observations and 12 variables.
NOTE: DATA statement used (Total process time):
                         0.08 seconds
     real time
                         0.07 seconds
     user cpu time
     system cpu time
                         0.02 seconds
     memory
                         3457.62k
     OS Memory
                         31144.00k
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       32 Switch Count 5
     Page Faults
                                       0
     Page Reclaims
                                       603
     Page Swaps
                                       0
     Voluntary Context Switches
                                       20
                                       0
     Involuntary Context Switches
     Block Input Operations
                                       0
     Block Output Operations
                                       19216
141
           Data SalesOrderDetail Clean;
142
           set SalesOrderDetail Clean(Drop= UnitPrice Char LineTotal Char OrderQty Char ModifiedDate Char ModifiedDate Char1);
143
           format ModifiedDate mmddyy10.
144
           UnitPrice Dollar8.2
145
          LineTotal Dollar8.2:
146
          run;
NOTE: There were 93912 observations read from the data set WORK.SALESORDERDETAIL CLEAN.
NOTE: The data set WORK.SALESORDERDETAIL CLEAN has 93912 observations and 7 variables.
NOTE: DATA statement used (Total process time):
     real time
                         0.01 seconds
     user cpu time
                         0.01 seconds
     system cpu time
                         0.01 seconds
     memory
                         3561.03k
     OS Memory
                         31144,00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       33 Switch Count 3
     Page Faults
                                       0
     Page Reclaims
                                       530
     Page Swaps
                                       0
     Voluntary Context Switches
                                       15
     Involuntary Context Switches
                                       8
     Block Input Operations
                                       a
     Block Output Operations
                                       8968
147
148
           title 'Cleaned Data of SalesOrder Sheet';
149
           proc print data=SalesOrderDetail Clean (obs=10);
150
          run;
NOTE: There were 10 observations read from the data set WORK.SALESORDERDETAIL CLEAN.
NOTE: PROCEDURE PRINT used (Total process time):
     real time
                         0.02 seconds
     user cpu time
                         0.02 seconds
     system cpu time
                         0.00 seconds
                         2027.28k
     memory
     OS Memory
                         29092.00k
```

```
Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       34 Switch Count 0
     Page Faults
                                       0
     Page Reclaims
                                       254
     Page Swaps
                                       0
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
                                       a
     Block Input Operations
                                       0
     Block Output Operations
                                       0
151
152
          /*Part 3*/:
153
          /*Merging the datasets*/;
154
          proc sort data=Product Clean; by ProductID;
155
          run;
NOTE: There were 504 observations read from the data set WORK.PRODUCT CLEAN.
NOTE: The data set WORK.PRODUCT CLEAN has 504 observations and 5 variables.
NOTE: PROCEDURE SORT used (Total process time):
                         0.00 seconds
     real time
                         0.00 seconds
     user cpu time
     system cpu time
                         0.00 seconds
                         941.59k
     memory
     OS Memory
                         28584.00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       35 Switch Count 2
     Page Faults
                                       0
     Page Reclaims
                                      172
     Page Swaps
                                       0
     Voluntary Context Switches
                                       13
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       264
156
          proc sort data=SalesOrderDetail Clean; by ProductID;
157
          run;
NOTE: There were 93912 observations read from the data set WORK.SALESORDERDETAIL CLEAN.
NOTE: The data set WORK.SALESORDERDETAIL_CLEAN has 93912 observations and 7 variables.
NOTE: PROCEDURE SORT used (Total process time):
     real time
                         0.04 seconds
                         0.03 seconds
     user cpu time
     system cpu time
                         0.01 seconds
                         9472.21k
     memory
     OS Memory
                         36564.00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       36 Switch Count 2
                                       0
     Page Faults
                                       2026
     Page Reclaims
     Page Swaps
                                       0
     Voluntary Context Switches
                                       11
     Involuntary Context Switches
                                       2
     Block Input Operations
                                       0
     Block Output Operations
                                       8968
158
          data SalesDetails;
159
          merge Product Clean(in=P1) SalesOrderDetail Clean(in=P2);
160
          by ProductID;
161
          if P1=1 and P2=1;
162
          run;
```

```
NOTE: There were 504 observations read from the data set WORK.PRODUCT CLEAN.
NOTE: There were 93912 observations read from the data set WORK.SALESORDERDETAIL CLEAN.
NOTE: The data set WORK.SALESDETAILS has 93912 observations and 11 variables.
NOTE: DATA statement used (Total process time):
     real time
                         0.02 seconds
     user cpu time
                         0.02 seconds
     system cpu time
                         0.01 seconds
     memory
                         4004.03k
                         31660.00k
     OS Memory
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       37 Switch Count 2
     Page Faults
                                       a
     Page Reclaims
                                       595
     Page Swaps
                                       0
                                       9
     Voluntary Context Switches
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       20744
163
          data SalesDetails;
164
          set SalesDetails(Drop=SalesOrderID SalesOrderDetailID ProductNumber ListPrice);
165
166
          title 'Merged Data';
NOTE: There were 93912 observations read from the data set WORK.SALESDETAILS.
NOTE: The data set WORK.SALESDETAILS has 93912 observations and 7 variables.
NOTE: DATA statement used (Total process time):
     real time
                         0.01 seconds
                         0.01 seconds
     user cpu time
     system cpu time
                         0.01 seconds
                         3558.15k
     memory
     OS Memory
                         31400.00k
                         12/27/2021 08:43:49 PM
     Timestamp
                                       38 Switch Count 4
     Step Count
     Page Faults
                                       0
     Page Reclaims
                                       530
     Page Swaps
                                       0
                                       22
     Voluntary Context Switches
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       14856
167
          proc print data=SalesDetails (obs=10);
168
NOTE: There were 10 observations read from the data set WORK.SALESDETAILS.
NOTE: PROCEDURE PRINT used (Total process time):
     real time
                         0.02 seconds
     user cpu time
                         0.02 seconds
                         0.00 seconds
     system cpu time
     memory
                         2029,25k
                         29348.00k
     OS Memory
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       39 Switch Count 0
     Page Faults
                                       0
     Page Reclaims
                                       253
     Page Swaps
                                       0
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
```

```
Block Output Operations
```

```
169
170
           data SalesAnalvsis:
171
           set SalesDetails;
172
          retain SubTotal;
173
          by ProductID;
174
          if First.ProductID then SubTotal=LineTotal;
175
          else SubTotal=SubTotal+LineTotal;
176
          if Last.ProductId;
177
          run;
NOTE: There were 93912 observations read from the data set WORK.SALESDETAILS.
NOTE: The data set WORK.SALESANALYSIS has 238 observations and 8 variables.
NOTE: DATA statement used (Total process time):
      real time
                         0.01 seconds
     user cpu time
                         0.00 seconds
      system cpu time
                         0.00 seconds
     memory
                         2364.40k
                         29608.00k
     OS Memory
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       40 Switch Count 3
                                       a
     Page Faults
                                       310
     Page Reclaims
      Page Swaps
                                       0
      Voluntary Context Switches
                                       17
      Involuntary Context Switches
                                       0
      Block Input Operations
                                       0
      Block Output Operations
                                       272
178
           title 'Sales Analysis with SubTotal Value';
179
           proc print data=SalesAnalysis(obs=10);
180
          run;
NOTE: There were 10 observations read from the data set WORK.SALESANALYSIS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time
                         0.02 seconds
                         0.02 seconds
      user cou time
      system cpu time
                         0.00 seconds
                         689.28k
      memory
     OS Memory
                         28580.00k
                         12/27/2021 08:43:49 PM
      Timestamp
     Step Count
                                       41 Switch Count 0
      Page Faults
                                       0
      Page Reclaims
                                       60
     Page Swaps
                                       a
      Voluntary Context Switches
                                       0
                                       0
      Involuntary Context Switches
      Block Input Operations
                                       0
      Block Output Operations
                                       0
181
182
          /*Part 4*/;
183
          /*Data Analysis*/;
184
          data SalesAnalysis1;
          set SalesDetails ;
185
186
          retain QtyTotal;
187
          by ProductID;
188
          if First.ProductID then QtyTotal=OrderQty;
189
          else QtyTotal=QtyTotal+OrderQty;
```

16

```
190
           if Last.ProductId:
191
           TotSale=UnitPrice*QtyTotal;
192
          run:
NOTE: There were 93912 observations read from the data set WORK.SALESDETAILS.
NOTE: The data set WORK.SALESANALYSIS1 has 238 observations and 9 variables.
NOTE: DATA statement used (Total process time):
      real time
                         0.01 seconds
                         0.01 seconds
     user cou time
                         0.00 seconds
     system cpu time
                         2364.62k
      memory
     OS Memory
                         29608.00k
      Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       42 Switch Count 3
                                       0
     Page Faults
      Page Reclaims
                                       311
      Page Swaps
                                       0
      Voluntary Context Switches
                                       18
      Involuntary Context Switches
                                       0
      Block Input Operations
                                       0
      Block Output Operations
                                       264
193
194
           title 'Answer1: Red color Helmets sold in 2013 and 2014';
195
           proc print data=SalesAnalysis1 Noobs;
196
          var Name QtyTotal;
           where Name='Sport-100 Helmet, Red';
197
198
          run;
NOTE: There were 1 observations read from the data set WORK.SALESANALYSIS1.
      WHERE Name='Sport-100 Helmet, Red';
NOTE: PROCEDURE PRINT used (Total process time):
      real time
                         0.00 seconds
     user cpu time
                         0.01 seconds
                         0.00 seconds
      system cpu time
      memory
                         884.03k
     OS Memory
                         28840.00k
      Timestamp
                         12/27/2021 08:43:49 PM
      Step Count
                                       43 Switch Count 0
     Page Faults
                                       0
     Page Reclaims
                                       101
      Page Swaps
                                       0
      Voluntary Context Switches
                                       0
      Involuntary Context Switches
                                       0
      Block Input Operations
                                       0
      Block Output Operations
                                       24
199
200
           title 'Answer2: Number of Items sold in 2013 and 2014 have a Multi color';
201
           proc print data=SalesAnalysis1 Noobs;
202
          var Name Color QtyTotal;
203
          sum QtyTotal;
204
           where Color='Multi';
205
          run:
NOTE: There were 8 observations read from the data set WORK.SALESANALYSIS1.
      WHERE Color='Multi';
NOTE: PROCEDURE PRINT used (Total process time):
                         0.01 seconds
      real time
                         0.01 seconds
      user cpu time
      system cpu time
                         0.00 seconds
```

```
28840.00k
      OS Memory
      Timestamp
                         12/27/2021 08:43:49 PM
      Step Count
                                       44 Switch Count 0
      Page Faults
                                       0
      Page Reclaims
                                       96
      Page Swaps
                                       a
      Voluntary Context Switches
                                       0
      Involuntary Context Switches
                                       1
                                       0
      Block Input Operations
      Block Output Operations
                                       16
206
207
           title 'Answer3: The combined Sales total for all the helmets sold in 2013 and 2014';
208
           proc print data=SalesAnalysis1 Noobs;
209
          var Name;
210
          sum QtyTotal;
211
           where Name in ('Sport-100 Helmet, Red', 'Sport-100 Helmet, Black',
212
           'Sport-100 Helmet, Blue');
213
          run;
NOTE: There were 3 observations read from the data set WORK.SALESANALYSIS1.
      WHERE Name in ('Sport-100 Helmet, Black', 'Sport-100 Helmet, Blue', 'Sport-100 Helmet, Red');
NOTE: PROCEDURE PRINT used (Total process time):
      real time
                         0.00 seconds
                         0.01 seconds
      user cpu time
      system cpu time
                         0.01 seconds
                         884.03k
      memory
      OS Memory
                         28840.00k
      Timestamp
                         12/27/2021 08:43:49 PM
      Step Count
                                       45 Switch Count 0
      Page Faults
                                       0
      Page Reclaims
                                       96
      Page Swaps
                                       0
                                       0
      Voluntary Context Switches
      Involuntary Context Switches
                                       0
      Block Input Operations
                                       0
      Block Output Operations
                                       8
214
215
           title 'Answer4: The number of Yellow Color Touring-1000 sold in 2013 and 2014';
216
           proc print data=SalesAnalysis1 Noobs;
217
          var Name:
218
          sum OtyTotal;
219
           where Name in ('Touring-1000 Yellow, 46', 'Touring-1000 Yellow, 50',
220
           'Touring-1000 Yellow, 54', 'Touring-1000 Yellow, 60');
221
           run;
NOTE: There were 4 observations read from the data set WORK.SALESANALYSIS1.
      WHERE Name in ('Touring-1000 Yellow, 46', 'Touring-1000 Yellow, 50', 'Touring-1000 Yellow, 54', 'Touring-1000 Yellow, 60');
NOTE: PROCEDURE PRINT used (Total process time):
      real time
                         0.00 seconds
                         0.01 seconds
      user cpu time
      system cpu time
                         0.00 seconds
                         884.03k
      memory
     OS Memory
                         28840.00k
      Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       46 Switch Count 0
      Page Faults
                                       0
      Page Reclaims
                                       94
      Page Swaps
                                       0
```

887.68k

memory

```
Voluntary Context Switches
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       8
222
223
          title 'Total sales in 2013 and 2014';
224
          proc print data=SalesAnalysis1 Noobs;
225
          Var Name:
226
          sum TotSale;
227
          run;
NOTE: There were 238 observations read from the data set WORK.SALESANALYSIS1.
NOTE: PROCEDURE PRINT used (Total process time):
     real time
                         0.11 seconds
                         0.12 seconds
     user cpu time
     system cpu time
                         0.00 seconds
     memory
                         613.81k
     OS Memory
                         28580.00k
                         12/27/2021 08:43:49 PM
     Timestamp
                                       47 Switch Count 0
     Step Count
     Page Faults
                                       62
     Page Reclaims
     Page Swaps
                                       0
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
                                       2
     Block Input Operations
                                       0
                                       48
     Block Output Operations
228
229
          title 'Bar Chart on the Color of the Items';
230
          proc gchart data=SalesAnalysis1;
231
          vbar Color;
232
          run:
233
234
          /*Part 4-Data Analysis-Year wise answers*/;
235
          Title 'The number of Red color Helmets sold in 2013 and 2014';
NOTE: There were 238 observations read from the data set WORK.SALESANALYSIS1.
NOTE: PROCEDURE GCHART used (Total process time):
     real time
                         0.14 seconds
     user cpu time
                         0.13 seconds
                         0.01 seconds
     system cpu time
                         6504.03k
     memory
     OS Memory
                         32532.00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       48 Switch Count 3
     Page Faults
                                       0
     Page Reclaims
                                      1568
     Page Swaps
                                       0
     Voluntary Context Switches
                                       30
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
                                       200
     Block Output Operations
236
          proc sql;
237
          create table Red as
238
          select Name, year(ModifiedDate) as Year, sum(QtyTotal) as Red Count from SalesAnalysis1
239
          where Name='Sport-100 Helmet, Red'
```

```
240
          group by Year:
NOTE: The query requires remerging summary statistics back with the original data.
NOTE: Table WORK.RED created, with 1 rows and 3 columns.
241
NOTE: PROCEDURE SQL used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.01 seconds
                         0.00 seconds
     system cpu time
                         6933.87k
     memory
                         34740.00k
     OS Memory
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       49 Switch Count 2
     Page Faults
                                      0
     Page Reclaims
                                      541
     Page Swaps
                                       0
     Voluntary Context Switches
                                      31
     Involuntary Context Switches
                                      0
     Block Input Operations
                                      0
     Block Output Operations
                                       264
242
          proc print data=Red;
243
NOTE: There were 1 observations read from the data set WORK.RED.
NOTE: PROCEDURE PRINT used (Total process time):
                         0.00 seconds
     real time
                         0.01 seconds
     user cpu time
     system cpu time
                         0.00 seconds
                         619.31k
     memory
     OS Memory
                         30116.00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       50 Switch Count 0
     Page Faults
                                       0
                                       60
     Page Reclaims
     Page Swaps
                                       0
     Voluntary Context Switches
                                       0
                                      0
     Involuntary Context Switches
     Block Input Operations
                                       0
     Block Output Operations
                                       0
244
245
          Title 'The number of items sold in 2013 and 2014 of Multi color';
246
          proc sql;
247
          create table Multi as
248
          select year(ModifiedDate) as Year, sum(QtyTotal) as Multi Count from SalesAnalysis1
249
          where Color='Multi'
250
          group by Year;
NOTE: Table WORK.MULTI created, with 2 rows and 2 columns.
251
          quit;
NOTE: PROCEDURE SQL used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.01 seconds
     system cpu time
                         0.01 seconds
                         5607.50k
     memory
     OS Memory
                         35240.00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       51 Switch Count 2
     Page Faults
                                      0
     Page Reclaims
                                      375
```

```
Page Swaps
     Voluntary Context Switches
                                       22
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       264
252
          proc print data=Multi;
253
NOTE: There were 2 observations read from the data set WORK.MULTI.
NOTE: PROCEDURE PRINT used (Total process time):
     real time
                         0.00 seconds
                         0.01 seconds
     user cpu time
     system cpu time
                         0.00 seconds
                         615.65k
     memory
     OS Memory
                         30116.00k
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       52 Switch Count 0
     Page Faults
                                       0
                                       62
     Page Reclaims
     Page Swaps
                                       0
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       0
254
255
          Title 'The combined Sales total for all the helmets sold in 2013 and 2014';
256
          proc sql;
          create table Helmets as
257
258
          select year(ModifiedDate) as Year, sum(QtyTotal) as Helmet Count from SalesAnalysis1
259
          where Name in ('Sport-100 Helmet, Red', 'Sport-100 Helmet, Black',
260
          'Sport-100 Helmet, Blue')
261
          group by Year:
NOTE: Table WORK.HELMETS created, with 1 rows and 2 columns.
262
          quit;
NOTE: PROCEDURE SOL used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.00 seconds
     system cpu time
                         0.00 seconds
                         5607.50k
     memory
     OS Memory
                         35240.00k
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       53 Switch Count 2
     Page Faults
                                       a
     Page Reclaims
                                       358
     Page Swaps
                                       0
                                       21
     Voluntary Context Switches
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       264
263
          proc print data=Helmets;
264
          run;
NOTE: There were 1 observations read from the data set WORK.HELMETS.
NOTE: PROCEDURE PRINT used (Total process time):
                         0.00 seconds
     real time
     user cpu time
                         0.01 seconds
```

```
0.00 seconds
     system cpu time
                         615.65k
     memory
     OS Memory
                         30116,00k
     Timestamp
                         12/27/2021 08:43:49 PM
                                       54 Switch Count 0
     Step Count
     Page Faults
                                       0
     Page Reclaims
                                       63
     Page Swaps
                                       0
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       0
265
266
          Title 'The number of Yellow Color Touring-1000 sold in 2013 and 2014';
267
          proc sql;
268
          create table Yellow as
269
          select year(ModifiedDate) as Year, sum(QtyTotal) as Yellow Count from SalesAnalysis1
270
          where Name in ('Touring-1000 Yellow, 46', 'Touring-1000 Yellow, 50',
271
          'Touring-1000 Yellow, 54', 'Touring-1000 Yellow, 60')
272
          group by Year;
NOTE: Table WORK.YELLOW created, with 1 rows and 2 columns.
273
          quit;
NOTE: PROCEDURE SOL used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.01 seconds
     system cpu time
                         0.00 seconds
     memory
                         5607.50k
     OS Memory
                         35240.00k
     Timestamp
                         12/27/2021 08:43:49 PM
     Step Count
                                       55 Switch Count 2
     Page Faults
                                       0
     Page Reclaims
                                       369
                                       0
     Page Swaps
     Voluntary Context Switches
                                       21
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
                                       264
     Block Output Operations
274
          proc print data=Yellow;
275
          run;
NOTE: There were 1 observations read from the data set WORK.YELLOW.
NOTE: PROCEDURE PRINT used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.01 seconds
                         0.00 seconds
     system cpu time
     memory
                         615.65k
     OS Memory
                         30372.00k
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       56 Switch Count 0
     Page Faults
                                       0
     Page Reclaims
                                       61
                                       0
     Page Swaps
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       0
```

```
276
277
          Title 'The total sales in 2013 and 2014';
278
          proc sal:
279
          create table Sales as
280
          select year(ModifiedDate) as Year, sum(QtyTotal*UnitPrice) as Total Sales from SalesAnalysis1
281
          group by Year;
NOTE: Table WORK.SALES created, with 2 rows and 2 columns.
282
          quit;
NOTE: PROCEDURE SQL used (Total process time):
     real time
                         0.00 seconds
     user cpu time
                         0.00 seconds
     system cpu time
                         0.01 seconds
     memory
                         5622.65k
                         35496.00k
     OS Memory
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       57 Switch Count 2
     Page Faults
                                       0
     Page Reclaims
                                      371
     Page Swaps
                                       0
                                       21
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
     Block Input Operations
                                       0
     Block Output Operations
                                       264
283
          proc print data=Sales;
284
          run;
NOTE: There were 2 observations read from the data set WORK.SALES.
NOTE: PROCEDURE PRINT used (Total process time):
     real time
                         0.00 seconds
                         0.01 seconds
     user cpu time
     system cpu time
                         0.00 seconds
     memory
                         615.65k
                         30372.00k
     OS Memory
                         12/27/2021 08:43:49 PM
     Timestamp
     Step Count
                                       58 Switch Count 0
     Page Faults
                                       0
                                       66
     Page Reclaims
     Page Swaps
                                       0
     Voluntary Context Switches
                                       0
     Involuntary Context Switches
                                       0
     Block Input Operations
                                       0
     Block Output Operations
                                       0
285
286
287
288
289
290
291
292
          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
302
```

#### Results: Project BAN130.sas

| - | Obs | ProductID | Name                        | ProductNumber | MakeFlag | FinishedGoodsFlag | Color | SafetyStockLevel | ReorderPoint | StandardCost | ListPrice | Size | SizeUnitMeasureCode | WeightUnitMeasureCode | Weight | DaysToManufacture | ProductLine | Class | Style | ProductSubcategoryID | ProductModelID |
|---|-----|-----------|-----------------------------|---------------|----------|-------------------|-------|------------------|--------------|--------------|-----------|------|---------------------|-----------------------|--------|-------------------|-------------|-------|-------|----------------------|----------------|
|   | 1   | 1         | Adjustable<br>Race          | AR-5381       | 0        | 0                 |       | 1000             | 750          | 0            | 0         |      |                     |                       |        | 0                 |             |       |       |                      |                |
|   | 2   | 2         | Bearing<br>Ball             | BA-8327       | 0        | 0                 |       | 1000             | 750          | 0            | 0         |      |                     |                       |        | 0                 |             |       |       |                      |                |
|   | 3   | 3         | BB Ball<br>Bearing          | BE-2349       | -1       | 0                 |       | 800              | 600          | 0            | 0         |      |                     |                       |        | 1                 |             |       |       |                      |                |
|   | 4   | 4         | Headset<br>Ball<br>Bearings | BE-2908       | 0        | 0                 |       | 800              | 600          | 0            | 0         |      |                     |                       |        | 0                 |             |       |       |                      |                |
|   | 5   | 316       | Blade                       | BL-2036       | -1       | 0                 |       | 800              | 600          | 0            | 0         |      |                     |                       |        | 1                 |             |       |       |                      |                |

# Importing SalesOrderDetail Sheet

| Obs | SalesOrderID | SalesOrderDetailID | CarrierTrackingNumber | OrderQty | ProductID | SpecialOfferID | UnitPrice | UnitPriceDiscount | LineTotal   | rowguid                                | ModifiedDate        |
|-----|--------------|--------------------|-----------------------|----------|-----------|----------------|-----------|-------------------|-------------|--|---------------------|
| 1   | 43659        | 1                  | 4911-403C-98          | 1        | 776       | 1              | 2024.994  | 0                 | 2024.994000 | {B207C96D-D9E6-402B-8470-2CC176C42283} | 2011-05-31 00:00:00 |
| 2   | 43659        | 2                  | 4911-403C-98          | 3        | 777       | 1              | 2024.994  | 0                 | 6074.982000 | {7ABB600D-1E77-41BE-9FE5-B9142CFC08FA} | 2011-05-31 00:00:00 |
| 3   | 43659        | 3                  | 4911-403C-98          | 1        | 778       | 1              | 2024.994  | 0                 | 2024.994000 | {475CF8C6-49F6-486E-B0AD-AFC6A50CDD2F} | 2011-05-31 00:00:00 |
| 4   | 43659        | 4                  | 4911-403C-98          | 1        | 771       | 1              | 2039.994  | 0                 | 2039.994000 | {04C4DE91-5815-45D6-8670-F462719FBCE3} | 2011-05-31 00:00:00 |
| 5   | 43659        | 5                  | 4911-403C-98          | 1        | 772       | 1              | 2039.994  | 0                 | 2039.994000 | {5A74C7D2-E641-438E-A7AC-37BF23280301} | 2011-05-31 00:00:00 |

# **Cleaned Data of Prodcut Sheet**

| ProductID | Name                  | ProductNumber | Color  | ListPrice |
|-----------|-----------------------|---------------|--------|-----------|
| 1         | Adjustable Race       | AR-5381       | NA     | \$0.00    |
| 2         | Bearing Ball          | BA-8327       | NA     | \$0.00    |
| 3         | BB Ball Bearing       | BE-2349       | NA     | \$0.00    |
| 4         | Headset Ball Bearings | BE-2908       | NA     | \$0.00    |
| 316       | Blade                 | BL-2036       | NA     | \$0.00    |
| 317       | LL Crankarm           | CA-5965       | Black  | \$0.00    |
| 318       | ML Crankarm           | CA-6738       | Black  | \$0.00    |
| 319       | HL Crankarm           | CA-7457       | Black  | \$0.00    |
| 320       | Chainring Bolts       | CB-2903       | Silver | \$0.00    |
| 321       | Chainring Nut         | CN-6137       | Silver | \$0.00    |

#### Cleaned Data of SalesOrder Sheet

| Obs | SalesOrderID | SalesOrderDetailID | ProductID | UnitPrice | LineTotal | OrderQty | ModifiedDate |
|-----|--------------|--------------------|-----------|-----------|-----------|----------|--------------|
| 1   | 49181        | 27406              | 794       | \$2181.56 | \$2181.56 | 1        | 01/01/2013   |
| 2   | 49182        | 27407              | 790       | \$2443.35 | \$2443.35 | 1        | 01/01/2013   |
| 3   | 49183        | 27408              | 791       | \$2443.35 | \$2443.35 | 1        | 01/01/2013   |
| 4   | 49184        | 27409              | 784       | \$2049.10 | \$2049.10 | 1        | 01/01/2013   |
| 5   | 49185        | 27410              | 784       | \$2049.10 | \$2049.10 | 1        | 01/01/2013   |
| 6   | 49186        | 27411              | 791       | \$2443.35 | \$2443.35 | 1        | 01/01/2013   |
| 7   | 49187        | 27412              | 796       | \$2181.56 | \$2181.56 | 1        | 01/01/2013   |
| 8   | 49188        | 27413              | 782       | \$2049.10 | \$2049.10 | 1        | 01/01/2013   |
| 9   | 49189        | 27414              | 769       | \$782.99  | \$782.99  | 1        | 01/01/2013   |
| 10  | 49190        | 27415              | 798       | \$1000.44 | \$1000.44 | 1        | 01/01/2013   |

| Obs | ProductID | Name                  | Color | UnitPrice | LineTotal | OrderQty | ModifiedDate |
|-----|-----------|-----------------------|-------|-----------|-----------|----------|--------------|
| 1   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$80.75   | 4        | 01/28/2013   |
| 2   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$60.56   | 3        | 01/28/2013   |
| 3   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$60.56   | 3        | 01/28/2013   |
| 4   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$121.12  | 6        | 01/28/2013   |
| 5   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$40.37   | 2        | 01/28/2013   |
| 6   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$201.87  | 10       | 01/28/2013   |
| 7   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$20.19   | 1        | 01/28/2013   |
| 8   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$100.93  | 5        | 01/28/2013   |
| 9   | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$20.19   | 1        | 01/28/2013   |
| 10  | 707       | Sport-100 Helmet, Red | Red   | \$20.19   | \$100.93  | 5        | 01/28/2013   |

# Sales Analysis with SubTotal Value

| Obs | ProductID | Name                        | Color | UnitPrice | LineTotal | OrderQty | ModifiedDate | SubTotal  |
|-----|-----------|-----------------------------|-------|-----------|-----------|----------|--------------|-----------|
| 1   | 707       | Sport-100 Helmet, Red       | Red   | \$34.99   | \$34.99   | 1        | 06/30/2014   | 126263.88 |
| 2   | 708       | Sport-100 Helmet, Black     | Black | \$34.99   | \$34.99   | 1        | 06/30/2014   | 126940.27 |
| 3   | 711       | Sport-100 Helmet, Blue      | Blue  | \$34.99   | \$34.99   | 1        | 06/30/2014   | 128596.19 |
| 4   | 712       | AWC Logo Cap                | Multi | \$8.99    | \$8.99    | 1        | 06/30/2014   | 38013.93  |
| 5   | 713       | Long-Sleeve Logo Jersey, S  | Multi | \$49.99   | \$49.99   | 1        | 06/30/2014   | 21445.71  |
| 6   | 714       | Long-Sleeve Logo Jersey, M  | Multi | \$49.99   | \$49.99   | 1        | 06/30/2014   | 77087.41  |
| 7   | 715       | Long-Sleeve Logo Jersey, L  | Multi | \$49.99   | \$49.99   | 1        | 06/30/2014   | 123614.75 |
| 8   | 716       | Long-Sleeve Logo Jersey, XL | Multi | \$49.99   | \$49.99   | 1        | 06/30/2014   | 58127.87  |
| 9   | 717       | HL Road Frame - Red, 62     | Red   | \$858.90  | \$1717.80 | 2        | 05/01/2014   | 219253.74 |
| 10  | 718       | HL Road Frame - Red, 44     | Red   | \$858.90  | \$858.90  | 1        | 05/01/2014   | 220112.64 |

#### Answer1: Red color Helmets sold in 2013 and 2014

| Name                  | QtyTotal |
|-----------------------|----------|
| Sport-100 Helmet, Red | 4657     |

#### Answer2: Number of Items sold in 2013 and 2014 have a Multi color

| Name                        | Color | QtyTotal |
|-----------------------------|-------|----------|
| AWC Logo Cap                | Multi | 5718     |
| Long-Sleeve Logo Jersey, S  | Multi | 429      |
| Long-Sleeve Logo Jersey, M  | Multi | 2307     |
| Long-Sleeve Logo Jersey, L  | Multi | 3935     |
| Long-Sleeve Logo Jersey, XL | Multi | 1676     |
| Men's Bib-Shorts, S         | Multi | 292      |
| Men's Bib-Shorts, M         | Multi | 491      |
| Men's Bib-Shorts, L         | Multi | 161      |
|                             |       | 15009    |

Answer3: The combined Sales total for all the helmets sold in 2013 and 2014

| Name                    | QtyTotal |
|-------------------------|----------|
| Sport-100 Helmet, Red   | 4657     |
| Sport-100 Helmet, Black | 4804     |
| Sport-100 Helmet, Blue  | 4864     |
|                         | 14325    |

# Answer4: The number of Yellow Color Touring-1000 sold in 2013 and 2014

| Name                    | QtyTotal |
|-------------------------|----------|
| Touring-1000 Yellow, 46 | 1005     |
| Touring-1000 Yellow, 50 | 652      |
| Touring-1000 Yellow, 54 | 397      |
| Touring-1000 Yellow, 60 | 1114     |
|                         | 3168     |

# Total sales in 2013 and 2014

| Name                           | TotSale    |
|--------------------------------|------------|
| Sport-100 Helmet, Red          | 162948.43  |
| Sport-100 Helmet, Black        | 168091.96  |
| Sport-100 Helmet, Blue         | 170191.36  |
| AWC Logo Cap                   | 51404.82   |
| Long-Sleeve Logo Jersey, S     | 21445.71   |
| Long-Sleeve Logo Jersey, M     | 115326.93  |
| Long-Sleeve Logo Jersey, L     | 196710.65  |
| Long-Sleeve Logo Jersey, XL    | 83783.24   |
| HL Road Frame - Red, 62        | 223314.00  |
| HL Road Frame - Red, 44        | 224172.90  |
| HL Road Frame - Red, 48        | 52392.90   |
| LL Road Frame - Black, 58      | 88823.75   |
| LL Road Frame - Black, 60      | 12342.25   |
| LL Road Frame - Red, 44        | 37229.09   |
| LL Road Frame - Red, 48        | 34436.91   |
| LL Road Frame - Red, 52        | 1820.99    |
| LL Road Frame - Red, 60        | 46165.42   |
| LL Road Frame - Red, 62        | 39178.22   |
| LL Road Frame - Black, 44      | 22863.52   |
| LL Road Frame - Black, 52      | 156604.97  |
| HL Mountain Frame - Silver, 42 | 148184.70  |
| HL Mountain Frame - Silver, 46 | 287363.70  |
| HL Mountain Frame - Black, 42  | 527963.52  |
| HL Mountain Frame - Black, 38  | 284225.76  |
| HL Mountain Frame - Silver, 38 | 550985.10  |
| Road-650 Red, 58               | 100222.72  |
| Road-650 Red. 60               | 257635.03  |
| Road-650 Red, 62               | 237903.68  |
| Road-650 Red, 44               | 285822.67  |
| Road-650 Red, 48               | 236776.18  |
| Road-650 Red, 52               | 194181.52  |
| Road-650 Black, 58             | 233393.66  |
|                                |            |
| Road-650 Black, 60             | 186351.62  |
| Road-650 Black, 62             | 97090.76   |
| Road-650 Black, 44             | 179304.71  |
| Road-650 Black, 48             | 76106.63   |
| Road-650 Black, 52             | 277930.13  |
| Mountain-200 Silver, 38        | 3879023.28 |
| Mountain-200 Silver, 42        | 3352385.55 |
| Mountain-200 Silver, 46        | 3398785.35 |
| Mountain-200 Black, 38         | 4794234.11 |
| Mountain-200 Black, 42         | 4073607.25 |
| Mountain-200 Black, 46         | 3380520.27 |
| Mountain-300 Black, 38         | 145798.65  |
| Mountain-300 Black, 40         | 151630.60  |
| Mountain-300 Black, 44         | 149686.61  |

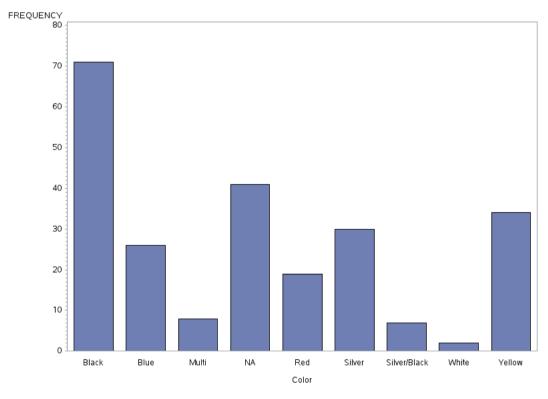
| Name                          | TotSale    |
|-------------------------------|------------|
| Mountain-300 Black, 48        | 149038.6   |
| Road-250 Red, 44              | 696354.7   |
| Road-250 Red, 48              | 431006.94  |
| Road-250 Red, 52              | 493556.70  |
| Road-250 Red, 58              | 1453793.2  |
| Road-250 Black, 44            | 2521537.20 |
| Road-250 Black, 48            | 2321182.50 |
| Road-250 Black, 52            | 1898482.9  |
| Road-250 Black, 58            | 1458679.9  |
| Road-550-W Yellow, 38         | 1318816.7  |
| Road-550-W Yellow, 40         | 1109285.10 |
| Road-550-W Yellow, 42         | 963621.4   |
| Road-550-W Yellow, 44         | 737282.4   |
| Road-550-W Yellow, 48         | 1333383.10 |
| LL Fork                       | 4713.4     |
|                               |            |
| HL Fork                       | 17762.5    |
| ML Headset                    | 12827.1    |
| HL Headset                    | 6436.0     |
| LL Mountain Handlebars        | 14671.4    |
| ML Mountain Handlebars        | 34439.9    |
| HL Mountain Handlebars        | 22298.0    |
| LL Road Handlebars            | 2725.8     |
| HL Road Handlebars            | 27421.50   |
| ML Mountain Frame - Black, 38 | 33480.9    |
| LL Mountain Front Wheel       | 6232.4     |
| ML Mountain Front Wheel       | 8653.64    |
| HL Mountain Front Wheel       | 7385.2     |
| ML Road Front Wheel           | 28122.1    |
| HL Road Front Wheel           | 32477.9    |
| ML Road Frame-W - Yellow, 38  | 199862.8   |
| LL Mountain Rear Wheel        | 3632.64    |
| ML Mountain Rear Wheel        | 47157.8    |
| HL Mountain Rear Wheel        | 50260.2    |
| LL Road Rear Wheel            | 22990.2    |
| HL Road Rear Wheel            | 528.4      |
| ML Mountain Frame - Black, 44 | 39549.3    |
|                               | 74327.73   |
| ML Mountain Frame - Black, 48 |            |
| ML Road Frame-W - Yellow, 40  | 34262.2    |
| ML Road Frame-W - Yellow, 44  | 311215.0   |
| ML Road Frame-W - Yellow, 48  | 198435.2   |
| HL Road Frame - Black, 44     | 227608.5   |
| HL Road Frame - Black, 48     | 52392.9    |
| Men's Sports Shorts, S        | 6370.9     |
| Cable Lock                    | 47.10      |
| Minipump                      | 4041.9     |
| Men's Sports Shorts, M        | 15285.4    |
| Men's Sports Shorts, L        | 4787.2     |
| Women's Tights, S             | 29099.8    |
| Women's Tights, M             | 5219.30    |
| Women's Tights, L             | 33681.7    |
| Men's Bib-Shorts, S           | 17080.10   |
| Men's Bib-Shorts, M           | 28720.3    |
| Men's Bib-Shorts, L           | 8693.0     |
| Half-Finger Gloves, S         | 45037.1    |
| Half-Finger Gloves, M         | 68523.0    |
|                               |            |
| Half-Finger Gloves, L         | 26841.0    |
| Full-Finger Gloves, S         | 3926.2     |

| Name  | TotSale   |
|---|-----------|
| Full-Finger Gloves, L   | 24644.1   |
| Classic Vest, S   | 269684.5  |
| Classic Vest, M   | 145034.0  |
| Classic Vest, L   | 13144.5   |
| Women's Mountain Shorts, S  | 230687.0  |
| Women's Mountain Shorts, M  | 79718.6   |
| Women's Mountain Shorts, L  | 227047.5  |
| Water Bottle - 30 oz.   | 34006.8   |
| Mountain Bottle Cage  | 20229.7   |
| Road Bottle Cage  | 15390.8   |
| Patch Kit/8 Patches   | 8850.8    |
| Racing Socks, M   | 13907.5   |
| Racing Socks, L   | 22232.2   |
| Hitch Rack - 4-Bike   | 3799.20   |
| Bike Wash - Dissolver   | 26386.0   |
| Fender Set - Mountain   | 46619.5   |
| All-Purpose Bike Stand  | 395.9     |
| Hydration Pack - 70 oz.   | 151827.39 |
| Short-Sleeve Classic Jersey, S                                    | 105550.4  |
| Short-Sleeve Classic Jersey, M                                    | 21973.9   |
|   | 153763.5  |
| Short-Sleeve Classic Jersey, L<br>Short-Sleeve Classic Jersey, XL |           |
| *   | 208617.30 |
| HL Touring Frame - Yellow, 60                                     | 233107.9  |
| LL Touring Frame - Yellow, 62                                     | 69618.1   |
| HL Touring Frame - Yellow, 46                                     | 52404.10  |
| HL Touring Frame - Yellow, 50                                     | 49994.72  |
| HL Touring Frame - Yellow, 54                                     | 325266.84 |
| HL Touring Frame - Blue, 46                                       | 68667.4   |
| HL Touring Frame - Blue, 50                                       | 74690.9   |
| HL Touring Frame - Blue, 54                                       | 326471.5  |
| HL Touring Frame - Blue, 60                                       | 223470.3  |
| Rear Derailleur   | 25725.2   |
| LL Touring Frame - Blue, 50                                       | 63216.4   |
| LL Touring Frame - Blue, 54                                       | 42210.9   |
| LL Touring Frame - Blue, 58                                       | 800.2     |
| LL Touring Frame - Blue, 62                                       | 3000.78   |
| LL Touring Frame - Yellow, 44                                     | 58815.2   |
| LL Touring Frame - Yellow, 50                                     | 45611.86  |
| LL Touring Frame - Yellow, 58                                     | 7201.8    |
| LL Touring Frame - Blue, 44                                       | 5001.30   |
| ML Mountain Frame-W - Silver, 40                                  | 196390.1  |
| ML Mountain Frame-W - Silver, 42                                  | 136970.6  |
| ML Mountain Frame-W - Silver, 46                                  | 41069.3   |
| Rear Brakes   | 15719.40  |
| LL Mountain Seat/Saddle   | 5646.3    |
| ML Mountain Seat/Saddle   | 12540.40  |
| HL Mountain Seat/Saddle   | 16392.10  |
| LL Road Seat/Saddle   | 162.7     |
| HL Road Seat/Saddle   | 4232.20   |
| LL Touring Seat/Saddle  | 1480.7    |
| ML Touring Seat/Saddle  | 1972.6    |
| HL Touring Seat/Saddle  | 13454.7   |
| LL Mountain Frame - Silver, 42                                    | 101078.3  |
| LL Mountain Frame - Silver, 44                                    | 58777.5   |
|   |           |
| LL Mountain Frame - Silver, 48                                    | 6970.93   |
| LL Mountain Frame - Silver, 52<br>Mountain Tire Tube              | 67332.7   |
|   | 15444.0   |

| Name                             | TotSale    |
|----------------------------------|------------|
| Touring Tire Tube                | 7425.11    |
| LL Mountain Frame - Black, 42    | 63396.70   |
| LL Mountain Frame - Black, 44    | 93671.2    |
| LL Mountain Frame - Black, 48    | 57851.30   |
| LL Mountain Frame - Black, 52    | 2248.1     |
| LL Mountain Tire                 | 21541.3    |
| ML Mountain Tire                 | 34818.3    |
| HL Mountain Tire                 | 488.60     |
| LL Road Tire                     | 22435.50   |
| ML Road Tire                     | 23140.74   |
| HL Road Tire                     | 27970.8    |
| Touring Tire                     | 27105.6    |
| LL Mountain Pedal                | 10908.0    |
| ML Mountain Pedal                | 12852.6    |
| HL Mountain Pedal                | 38146.2    |
| LL Road Pedal                    | 21087.19   |
| ML Road Pedal                    | 24624.89   |
| HL Road Pedal                    | 32849.5    |
| Touring Pedal                    | 7143.3     |
| ML Mountain Frame-W - Silver, 38 | 1529.1     |
| LL Mountain Frame - Black, 40    | 1198.9     |
| LL Mountain Frame - Silver, 40   | 70026.0    |
|                                  |            |
| Front Derailleur                 | 44628.83   |
| LL Touring Handlebars            | 1548.6     |
| HL Touring Handlebars            | 12087.2    |
| Front Brakes                     | 50417.10   |
| LL Crankset                      | 44855.2    |
| ML Crankset                      | 10464.7    |
| HL Crankset                      | 148955.3   |
| Chain                            | 9399.4     |
| Touring-2000 Blue, 60            | 996177.0   |
| Touring-1000 Yellow, 46          | 2395990.3  |
| Touring-1000 Yellow, 50          | 1554413.6  |
| Touring-1000 Yellow, 54          | 946475.79  |
| Touring-1000 Yellow, 60          | 2655853.9  |
| Touring-3000 Blue, 54            | 509252.10  |
| Touring-3000 Blue, 58            | 357812.70  |
| Touring-3000 Blue, 62            | 208600.3   |
| Touring-3000 Yellow, 44          | 631739.8   |
| Touring-3000 Yellow, 50          | 509252.10  |
| Touring-3000 Yellow, 54          | 336284.5   |
| Touring-3000 Yellow, 58          | 217508.5   |
| Touring-3000 Yellow, 62          | 626543.4   |
| Touring-1000 Blue, 46            | 2388838.14 |
| Touring-1000 Blue, 50            | 1547261.43 |
| Touring-1000 Blue, 54            | 984620.9   |
| Touring-1000 Blue, 60            | 2670158.4  |
| Touring-2000 Blue, 46            | 653589.30  |
| Touring-2000 Blue, 50            | 391181.70  |
| Touring-2000 Blue, 54            | 1226998.5  |
| Road-350-W Yellow, 40            | 2512362.2  |
| Road-350-W Yellow, 42            | 1605734.5  |
| Road-350-W Yellow, 44            | 911730.6   |
| Road-350-W Yellow, 48            | 2759005.78 |
| Road-750 Black, 58               | 481671.0   |
| Touring-3000 Blue, 44            | 216766.20  |
| Touring-3000 Blue, 50            | 624316.3   |
| Mountain-400-W Silver, 38        | 327033.2   |

| Name                      | TotSale     |
|---------------------------|-------------|
| Mountain-400-W Silver, 40 | 474775.33   |
| Mountain-400-W Silver, 42 | 296253.65   |
| Mountain-400-W Silver, 46 | 308565.49   |
| Mountain-500 Silver, 40   | 254245.50   |
| Mountain-500 Silver, 42   | 257070.45   |
| Mountain-500 Silver, 44   | 215261.19   |
| Mountain-500 Silver, 48   | 258200.43   |
| Mountain-500 Silver, 52   | 290969.85   |
| Mountain-500 Black, 40    | 152277.18   |
| Mountain-500 Black, 42    | 209516.12   |
| Mountain-500 Black, 44    | 188996.50   |
| Mountain-500 Black, 48    | 242455.51   |
| Mountain-500 Black, 52    | 146877.28   |
| LL Bottom Bracket         | 12244.93    |
| HL Bottom Bracket         | 39581.44    |
| Road-750 Black, 44        | 354233.44   |
| Road-750 Black, 48        | 840224.44   |
| Road-750 Black, 52        | 722506.62   |
|                           | 89758548.87 |

# Bar Chart on the Color of the Items



| Obs | Name                  | Year | Red_Count |
|-----|-----------------------|------|-----------|
| 1   | Sport-100 Helmet, Red | 2014 | 4657      |

# The number of items sold in 2013 and 2014 of Multi color

| Obs | Year | Multi_Count |
|-----|------|-------------|
| 1   | 2013 | 161         |
| 2   | 2014 | 14848       |

#### The combined Sales total for all the helmets sold in 2013 and 2014

| Obs | Year | Helmet_Count |
|-----|------|--------------|
| 1   | 2014 | 14325        |

# The number of Yellow Color Touring-1000 sold in 2013 and 2014

| Obs | Year | Yellow_Count |
|-----|------|--------------|
| 1   | 2014 | 3168         |

#### The total sales in 2013 and 2014

| Obs | Year | Total_Sales |
|-----|------|-------------|
| 1   | 2013 | 4050183.85  |
| 2   | 2014 | 85708365.02 |