sas innovate 2025

SAS® Macro 1 Case Study Preview

Presented by: Carleigh Jo Crabtree

linkedin.com/in/carleigh-jo-crabtree
CarleighJo.Crabtree@sas.com

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About Carleigh Jo

- North Carolina State University
  Business Administration, IT Concentration
- SAS Technical Training Consultant
- Travel, baking, sewing

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01 Intro to Macro Language

02 Explore Starter Program

03 Define Goals

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01 Intro to Macro Language

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Intro to Macro Language

Macro Language

Find & Replace

Enhance & Automate

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Intro to Macro Language

To create **data driven** macro variables:

```
PROC SQL;
SELECT distinct Type
    INTO :carType1-
    FROM sashelp.cars;
QUIT;
```

Macro Variable	Text
carType1	Sports
carType2	SUV
carType3	Truck
….carType#	….lastDistinctValue

To use:

```
&carType#
```


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Intro to Macro Language

To create macro definition with a parameter :

```
%MACRO carsMacro(tbl);
    PROC PRINT DATA= &tbl;
    RUN;
%MEND;
```

To use:

```
%carsMacro(sashelp.cars)
```


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Intro to Macro Language

Macro conditional processing:

```
%MACRO macroName;
%IF x=1 %THEN y="a";
%ELSE %IF x=2 %THEN y="b";
%MEND;
```

Macro iterative processing:

```
%MACRO macroName;
%DO i= start %TO stop;
...
%END;
%MEND;
```


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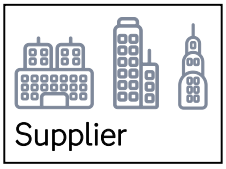
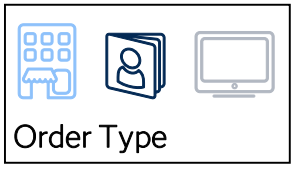
Data Discovery

WORK.orderDetail





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Explore Starter Program: Part A

```
proc sql;
create table OrderDetail as
select Order_ID, o.Product_ID, Order_Type, Product_Category,
       Product_Group, Product_Line, Product_Name,
       ((total_retail_price-costprice_per_unit)/quantity) as Profit,
       Supplier_ID, Supplier_Name
    from mc1.orders as o left join mc1.products as p
    on o.Product_ID=p.Product_ID
    where order_type=1;
quit;
```


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Explore Starter Program: Part B

```
proc sql;
select distinct Supplier_ID format=12.,
                sum(profit) as Profit,
               Supplier_Name
    from OrderDetail
    group by Supplier_ID, Supplier_Name
    order by Profit desc;
quit;
```

Supplier ID	Profit	Supplier Name
1303	87482.95	Eclipse Inc
2963	40977.58	3Top Sports
1684	35596.11	Magnifico Sports
13198	33240.55	Twain Inc
109	33074.55	Petterson AB
772	32221.31	AllSeasons Outdoor Clothing
4742	24348.64	Luna sastreria S.A.
755	23881.52	Top Sports

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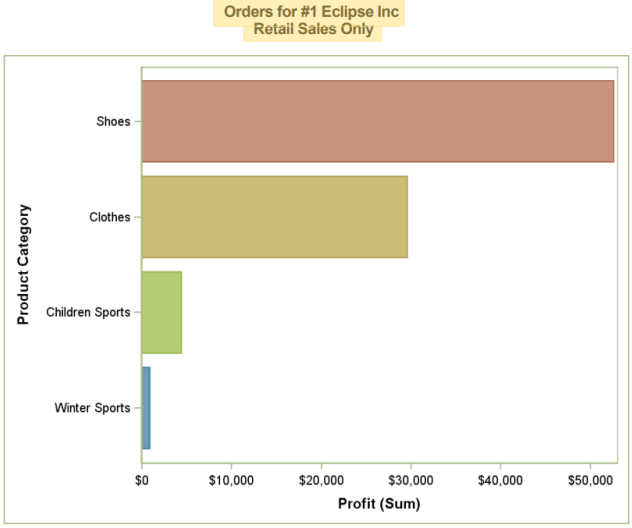
Explore Starter Program: Part C



Product Group	Number of Orders	Total Profit	Average Profit per Order
Eclipse Shoes	813	$52,600	$65
Eclipse Clothing	753	$27,337	$36
Eclipse, Kid's Clothes	125	$2,487	$20
Eclipse, Kid's Shoes	73	$1,923	$26
LSF	32	$2,238	$70
Winter Sports	11	$881	$80
Tracker Clothes	2	$15	$8

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Explore Starter Program: Part C

```
ods pdf file="&path/case_study/1.pdf" style=meadow startpage=no nogtitle;

title "Orders for #1 Eclipse Inc";
title2 "Retail Sales Only";
proc sgplot data=OrderDetail noautolegend ;
     hbar Product_Category / response=profit stat=sum group=Product_Category
categoryorder=respdesc;
     where Supplier_ID=1303;
     format profit dollar8.;
run;
proc sql;
     select Product_Group,
           count(order_id) as NumOrders "Number of Orders",
           sum(profit) as TotalProfit "Total Profit" format=dollar8.,
           avg(profit) as AvgProfit "Average Profit per Order" format=dollar6.
     from OrderDetail
     where Supplier_ID=1303
     group by Product_Group
     order by calculated numorders desc;
quit;

ods pdf close;
```


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Define Goals

1. User selects order type

2. Generate 5 PDF's of top 5 suppliers

3. PDF's update depending on supplier

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Demonstration

Follow along in your lab

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Thank you!

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