

Agenda

01 Intro to Macro Language

02 Explore Starter Program

03 Define Goals

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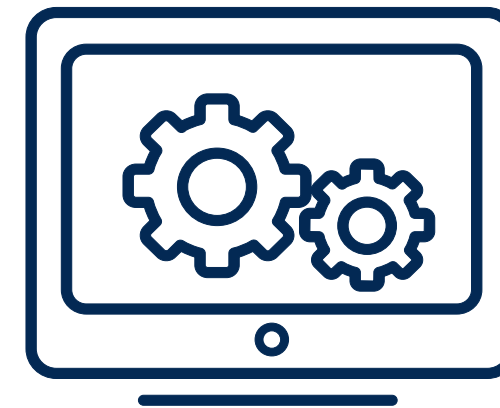
Intro to Macro Language



Macro Language



Find & Replace



Enhance & Automate

Intro to Macro Language

To create data driven macro variables:

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

To use:

```
&carType#
```

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

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)
```

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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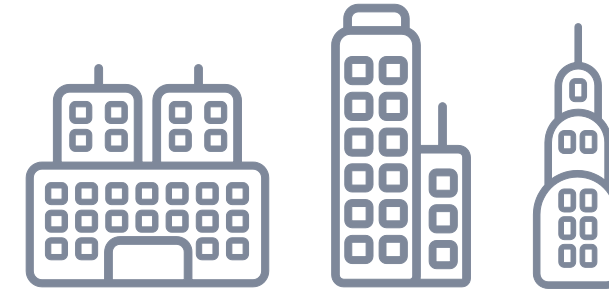
02 Explore Starter Program

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Data Discovery



WORK.orderDetail



Supplier



Order Type



Profit Per Order

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 mcl.orders as o left join mcl.products as p  
on o.Product_ID=p.Product_ID  
where order_type=1;  
quit;
```



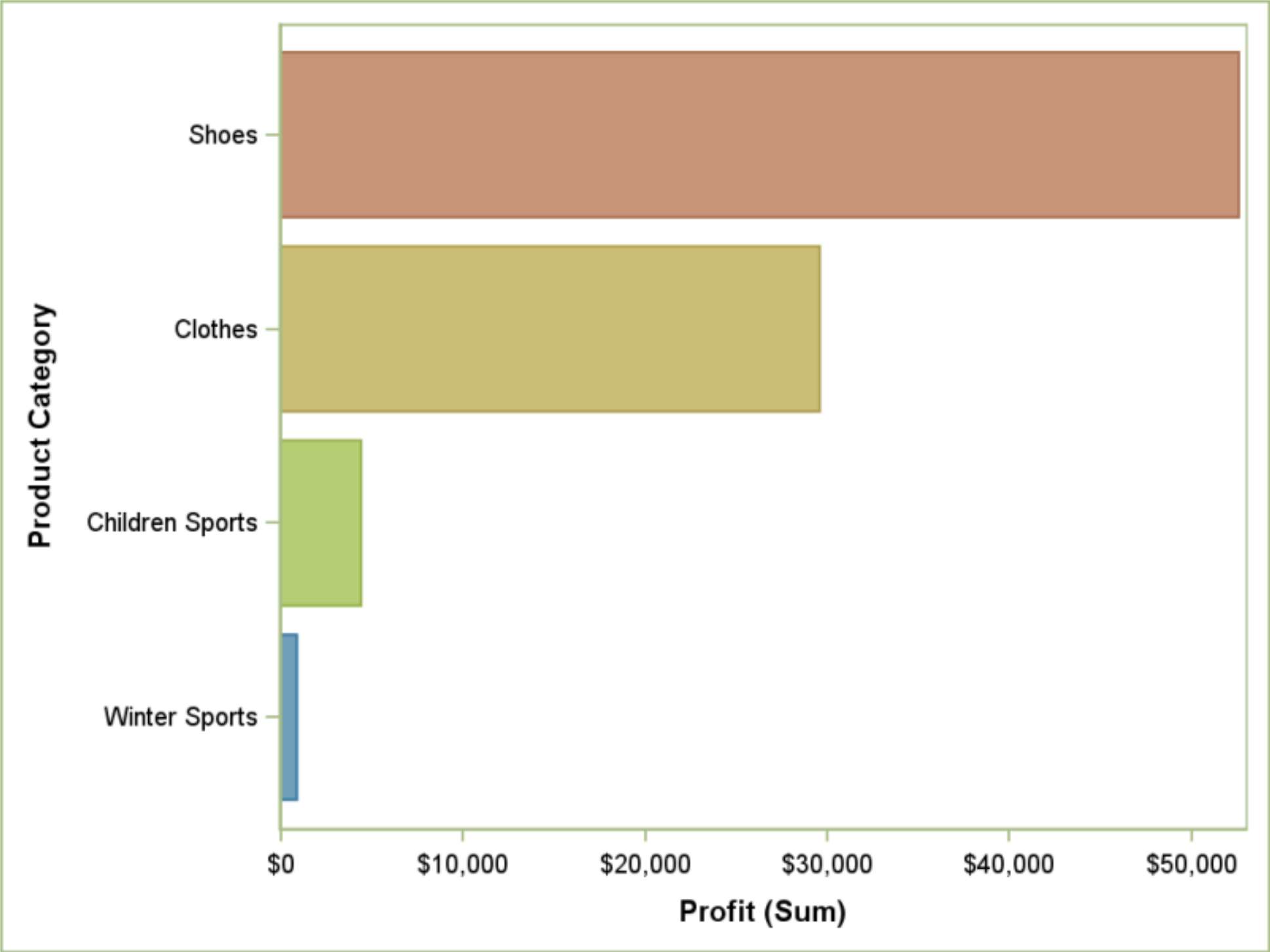
Explore Starter Program: Part B

```
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

Explore Starter Program: Part C

Orders for #1 Eclipse Inc
Retail Sales Only



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

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



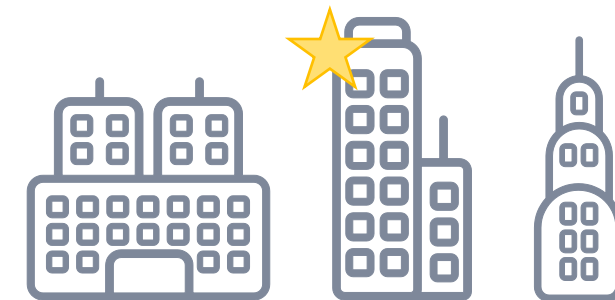
2

Generate 5 PDF's of top 5 suppliers



3

PDF's update depending on supplier





Hands-On Workshop

[CarleighJoCrabtree/SESUG2025 SASMacroCaseStudy:](#)
[SESUG 2025 SAS Macro Case Study](#)