

```
%let path=/courses/d649d56dba27fe300/STA5067/SAS Data;
libname orion "&path/orion";
/*      1      */
%put _automatic_;
/*      2.a     */
%let data1 = orion.customer;
%let var1 = Country;
proc sort data = &data1 out= syslast;
by &var1;
run;
/*      2.b     */
proc print data=&syslast;
  title "listing of &syslast";
run;

/*      3.a     */
data new;
  set orion.customer;
run;
%put the value after submit is:&syslast;
/* the value after submit is:WORK.NEW */
/*      3.b     */
proc print data=orion.customer;
run;
%put the value after submit is :&syslast;
/* the value after submit is :WORK.VERSION_1585248141585 */

/*      4.a     */
proc print data=orion.employee_payroll;
  format Birth_Date Employee_Hire_Date date9.;
run;
/*      4.b     */
%let date1 = 01Jan2007;
proc print data=orion.employee_payroll;
format Birth_Date Employee_Hire_Date date9.;
where Employee_Hire_Date between "&SYSdate9"d and "&date1"d;
run;

/*      5.a     */
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains 'Gold';
  title 'Gold Customers';
run;
/*      5.b     */
%let TYPE = Gold;
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains "&TYPE";
  title "&TYPE Customers";
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run;
/*      5.c      */
options symbolgen;
%let TYPE = Gold;
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains "&TYPE";
  title "&TYPE Customers";
run;
/*      5.d      */
%let TYPE = Internet;
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains "&TYPE";
  title "&TYPE Customers";
run;
/*      5.e      */
options nosymbolgen;

/*      6.a      */
%let type=Gold;
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains "&type"
  and Customer_Age between 30 and 45;
  title "&type Customers between 30 and 45";
run;
/*      6.b      */
%let type=Gold;
%let AGE1 = 30;
%let AGE2 = 45;
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains "&type"
  and Customer_Age between &AGE1 and &AGE2;
  title "&type Customers between &AGE1 and &AGE2";
run;
/*      6.c      */
options symbolgen;
%let type=Gold;
%let AGE1 = 30;
%let AGE2 = 45;
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains "&type"
  and Customer_Age between &AGE1 and &AGE2;
  title "&type Customers between &AGE1 and &AGE2";
run;
/*      6.d      */
%let type=Gold;
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%let AGE1 = 25;
%let AGE2 = 40;
proc print data=orion.customer_dim;
  var Customer_Name Customer_Gender Customer_Age;
  where Customer_Group contains "&type"
  and Customer_Age between &AGE1 and &AGE2;
  title "&type Customers between &AGE1 and &AGE2";
run;
/*      6.e      */
options nosymbolgen;

/*      7.a      */
%let pet1=Paisley;
%let pet2=Sitka;
/*      7.b      */
%symdel pet1 pet2;
/*      7.c      */
%put _user_;
%put &pet1 &pet2;
/*      8.a      */
proc print data=orion.employee_payroll;
  where Employee_Hire_Date='01AUG2006'd;
  id Employee_ID;
  var Employee_Gender Employee_Hire_Date;
  title 'Personal Information for Employees Hired in AUG 2006';
run;
/*      8.b      */
%let MONTH = Aug;
%let YEAR = 2006;
proc print data=orion.employee_payroll;
  where Employee_Hire_Date="01&MONTH&YEAR"d;
  id Employee_ID;
  var Employee_Gender Employee_Hire_Date;
  title "Personal Information for Employees Hired in &MONTH &YEAR";
run;
/*      8.c      */
%let MONTH = Jul;
%let YEAR = 2003;
proc print data=orion.employee_payroll;
  where Employee_Hire_Date="01&MONTH&YEAR"d;
  id Employee_ID;
  var Employee_Gender Employee_Hire_Date;
  title "Personal Information for Employees Hired in &MONTH &YEAR";
run;
/*      9.a      */
proc sort data=orion.staff out=staffhires;
  by Job_Title Emp_Hire_Date;
run;
data FirstHired;
  set staffhires;
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by Job_Title;
if First.Job_Title;
run;
proc print data=FirstHired;
id Job_Title;
var Employee_ID Emp_Hire_Date;
title "First Employee Hired within Each Job Title";
run;
/*      9.b      */
%let Time = First;
proc sort data=orion.staff out=staffhires;
by Job_Title Emp_Hire_Date;
run;
data &Time.Hired;
set staffhires;
by Job_Title;
if &Time..Job_Title;
run;
proc print data= &Time.Hired;
id Job_Title;
var Employee_ID Emp_Hire_Date;
title " &Time Employee Hired within Each Job Title";
run;

%let Time = Last;
data &Time.Hired;
set staffhires;
by Job_Title;
if &Time..Job_Title;
run;
proc print data= &Time.Hired;
id Job_Title;
var Employee_ID Emp_Hire_Date;
title " &Time Employee Hired within Each Job Title";
run;
/*      10      */
%let FULLNAME = Anthony Miller;
%let name = %substr(&fullname,1,1).%scan(&fullname,-1," ");
%put the value of the micro variable name is:&name;

/*      11      */
%put %sysfunc(today(),MMDDYYp10.);
%put %sysfunc(time(),timeAMPm8.);
/*      12.a      */
proc print data=orion.product_dim;
where Product_Name contains "Jacket";
var Product_Name Product_ID Supplier_Name;
title "Product Names Containing 'Jacket'";
run;
/*      12.b      */
%let Product = %nrstr(R&D);
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```
proc print data=orion.product_dim;  
  where Product_Name contains "&Product";  
  var Product_Name Product_ID Supplier_Name;  
  title "Product Names Containing '&Product'";  
run;  
/*      12.c      */  
%let Product = %nrstr(R&D);  
%let time = %sysfunc(time(),timeAMPm8.);  
%let date = %sysfunc(today(),MMDDYYp10.);  
proc print data=orion.product_dim;  
  where Product_Name contains "&Product";  
  var Product_Name Product_ID Supplier_Name;  
  %trim(title "Product Names Containing '&Product'");  
  %trim(title2 " Report generated at &date");  
  %trim(title3 " on &time");  
run;
```