The homework 7, by Li Ruan

(This is only the answer of text version, I have also submitted another sas version to make you run the program easily.)

Chapter 3.2 Level 1

4.a.

1. How many observations are there in the orion.country data set?

There were 7 observations read from the data set orion.country.;

1. How many variables are there in the orion.country data set?

There were 6 variables read from the data set orion.country.;

1. What is the name of the last country in the data set?

South Africa

4.b.

Submit a PROC CONTENTS step to generate a list of all members in the orion library. What is the name of the last member listed?

US\_SUPPLIERS

Chapter 3.2 Level 2

5.a Examine the general data set properties or orion.staff

proc contents data=orion.staff

run;

b. What sort information is stored for this data set?

The Variable section indicates that it is sorted by Employee\_ID using

the ANSI character set, and has been validated.

Chapter 3.2 Challenge

1. What is the name of the file?

Autoexec.sas

1. What is its purpose?

It contains SAS statements that are executed immediately after SAS initializes. These SAS statements can be used to invoke SAS programs automatically, set up certain variables for use during your SAS session, or set system options.

How is it created?

The file is created with any text editor but the recommended method is to use the SAS text editor and and save it using the Save As dialog box..

How could this be useful in a SAS session?

It can be used to set the path macro variable and to automatically submit a LIBNAME statement.

Chapter 4.1 Level 1

1.a)

proc print data=orion.order\_fact noobs

b) sum Total\_Retail\_Price;

c) Add a WHERE statement to select only the observations with Total\_Retail\_Price more than 500

-- where Total\_Retail\_Price>500;

What do you notice about the Obs column?

-- The numbers are not sequential. The original observation numbers are displayed.

Did the sum of Total\_Retail Price change to reflect only the subset?

-- Yes

d) If the Obs column is suppressed, how can you verify the number of observations in the results?

--Check the log.

e) Add an ID statement to use Customer\_ID as the identifying variable.

-- id Customer\_ID.

When the ID statement was added, how did the output change?

--Customer\_ID is the leftmost column and is displayed on each

line for an observation.

f,g) var Order\_ID Order\_Type Quantity Total\_Retail\_Price;

There are two Customer\_ID columns. The first column is the ID field,

and a second one is included because Customer\_ID is listed in the VAR statement.;

g) Remove the duplicate column by removing Customer\_ID from the VAR statement.

Chapter 4.1 Level 2

2.

a. proc print data=orion.customer\_dim noobs.

b.

where Customer\_Age between 30 and 40;

d. var Customer\_Name Customer\_Age Customer\_Type;

c. id Customer\_ID;

run;

Chapter 4.2 Level 1

5.a

proc sort data = orion.employee\_payroll

out= work.sort\_salary;

by Salary;

run;

5.b

proc print data=work.sort\_salary;

run;

6.a

proc sort data = orion.employee\_payroll

out= work.sort\_salary2;

by Employee\_Gender descending Salary;

run;

6.b

proc print data=work.sort\_salary2;

by Employee\_Gender;

run;

Chapter 4.2 Level 2

7.a

proc sort data=orion.employee\_payroll

out=work.sort\_sal;

by Employee\_Gender descending Salary;

run;

7.b

proc print data=work.sort\_sal noobs;

by Employee\_Gender;

sum Salary;

where Employee\_Term\_Date is missing and Salary>65000;

var Employee\_ID Salary Marital\_Status;

run;

Chapter 4.3 Lever 1

9.

c) title1 'Australian Sales Employees';

title2 'Senior Sales Representatives';

footnote1 'Job\_Title: Sales Rep. IV';

proc print data=orion.sales noobs;

where Country='AU' and Job\_Title contains 'Rep. IV';

b) var Employee\_ID First\_Name Last\_Name Gender Salary;

run;

e) title;

footnote;

(where (a) (d) is open and submit the program)

10.a

title 'Entry-level Sales Representatives';

footnote 'Job\_Title: Sales Rep. I';

proc print data=orion.sales noobs label;

where Country='US' and Job\_Title='Sales Rep. I';

var Employee\_ID First\_Name Last\_Name Gender Salary;

label Employee\_ID="Employee ID"

First\_Name="First Name"

Last\_Name="Last Name"

Salary="Annual Salary";

run;

title;

footnote;

10.b

title 'Entry-level Sales Representatives';

footnote 'Job\_Title: Sales Rep. I';

proc print data=orion.sales noobs split=' ';

where Country='US' and Job\_Title='Sales Rep. I';

var Employee\_ID First\_Name Last\_Name Gender Salary;

label Employee\_ID="Employee ID"

First\_Name="First Name"

Last\_Name="Last Name"

Salary="Annual Salary";

run;

title;

footnote;

Chapter 4.3 Level 2

11.

proc sort data=orion.employee\_addresses out=work.address;

where Country='US';

by State City Employee\_Name;

run;

title "US Employees by State";

proc print data=work.address noobs split=' ';

var Employee\_ID Employee\_Name City Postal\_Code;

label Employee\_ID='Employee ID'

Employee\_Name='Name'

Postal\_Code='Zip Code';

by State;

run;

Chapter 5.1 Level 1

1.

proc print data=orion.employee\_payroll;

b) var Employee\_ID Salary Birth\_Date Employee\_Hire\_Date;

c) format Salary dollar11.2 Birth\_Date mmddyy10.

Employee\_Hire\_Date date9.;

run;

Chapter 5.1 Level 2

\*2;

title1 'US Sales Employees';

title2 'Earning Under $26,000';

proc print data=orion.sales label noobs;

where Country='US' and Salary<26000;

var Employee\_ID First\_Name Last\_Name Job\_Title Salary Hire\_Date;

label First\_Name='First Name'

Last\_Name='Last Name'

Job\_Title='Title'

Hire\_Date='Date Hired';

format Salary dollar10. Hire\_Date monyy7.;

run;

title;

footnote;

Chapter 5.2 Level 1

4.

a)

data Q1Birthdays;

set orion.employee\_payroll;

BirthMonth=month(Birth\_Date);

if BirthMonth le 3;

run;

proc format;

b)

value $gender

'F'='Female'

'M'='Male';

c)

value mname

1='January'

2='February'

3='March';

run;

d)

title 'Employees with Birthdays in Q1';

proc print data=Q1Birthdays;

var Employee\_ID Employee\_Gender BirthMonth;

format Employee\_Gender $gender.

BirthMonth mname.;

Chapter 5.2 Level 2

5.

proc format;

b)

value $gender

'F'='Female'

'M'='Male'

other='Invalid code';

c)

value salrange .='Missing salary'

20000-<100000='Below $100,000'

100000-500000='$100,000 or more'

other='Invalid salary';

run;

d)

title1 'Salary and Gender Values';

title2 'for Non-Sales Employees';

proc print data=orion.nonsales;

var Employee\_ID Job\_Title Salary Gender;

format Salary salrange. Gender $gender.;

run;

title;

Chapter 6.2 Level 2

5.

data work.delays;

a)

set orion.orders;

b)

Order\_Month=month(Order\_Date);

c)

where Order\_Date+4<Delivery\_Date

and Employee\_ID=99999999;

if Order\_Month=8;

e)

label Order\_Date='Date Ordered'

Delivery\_Date='Date Delivered'

Order\_Month='Month Ordered';

f)

format Order\_Date Delivery\_Date mmddyy10.;

d)

keep Employee\_ID Customer\_ID Order\_Date Delivery\_Date

Order\_Month;

run;

g)

proc contents data=work.delays;

run;

h)

proc print data=work.delays;

run;

Chapter 9.1 Level 2

2.

data work.birthday;

a)

set orion.customer;

b1)

Bday2012=mdy(month(Birth\_Date),day(Birth\_Date),2012);

b2)

BdayDOW2012=weekday(Bday2012);

b3)

Age2012=(Bday2012-Birth\_Date)/365.25;

c)

keep Customer\_Name Birth\_Date Bday2012 BdayDOW2012 Age2012;

d)

format Bday2012 date9. Age2012 3.;

run;

e)

proc print data=work.birthday;

run;

Chapter 9.2 Level 2

6.

data work.season;

a)

set orion.customer\_dim;

length Promo2 $ 6;

Quarter=qtr(Customer\_BirthDate);

b1)

if Quarter=1 then Promo='Winter';

else if Quarter=2 then Promo='Spring';

else if Quarter=3 then Promo='Summer';

else if Quarter=4 then Promo='Fall';

b2)

if Customer\_Age>=18 and Customer\_Age<=25 then Promo2='YA';

else if Customer\_Age>=65 then Promo2='Senior';

c)

keep Customer\_FirstName Customer\_LastName Customer\_BirthDate

Customer\_Age Promo Promo2;

run;

d)

proc print data=work.season;

var Customer\_FirstName Customer\_LastName Customer\_BirthDate Promo

Customer\_Age Promo2;

run;

7.

data work.ordertype;

a)

set orion.orders;

length Type $ 13 SaleAds $ 5;

DayOfWeek=weekday(Order\_Date);

if Order\_Type=1 then

Type='Retail Sale';

else if Order\_Type=2 then do;

Type='Catalog Sale';

SaleAds='Mail';

end;

else if Order\_Type=3 then do;

Type='Internet Sale';

SaleAds='Email';

end;

drop Order\_Type Employee\_ID Customer\_ID;

run;

proc print data=work.ordertype;

run;

Chapter 10.1 Level 2

3.

a)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | Code | Code | Company | Company | ContactType | ContactType | |  | Type | Length | Type | Length | Type | Length | | orion.charities | Char | 6 | Char | 40 | Char | 10 | | orion.us\_suppliers | Char | 6 | Char | 30 | Char | 1 | | orion.consultants | Char | 6 | Char | 30 | Num | 8 | |  |  |  |  |  |  |
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proc contents data=orion.charities;

run;

proc contents data=orion.us\_suppliers;

run;

proc contents data=orion.consultants;

run;

b)

data work.contacts;

set orion.charities orion.us\_suppliers;

run;

c)

proc contents data=work.contacts;

run;

From which input data set were the variable attributes assigned?

--the first data set in the set statement, orion.charities;

d)

data work.contacts2;

set orion.us\_suppliers orion.charities;

run;

e)

proc contents data=work.contacts2;

run;

From which input data set were the variable attributes assigned?

--the first data set in the set statement, orion.us\_suppliers;

f)

data work.contacts3;

set orion.us\_suppliers orion.consultants;

run;

Why did the DATA step fail?

--ContactType has been defined as both character and numeric.;

Chapter 10.3 Level 2

5.

a)

proc sort data=orion.product\_list

out=work.product\_list;

by Product\_Level;

run;

b)

data work.listlevel;

merge orion.product\_level work.product\_list ;

by Product\_Level;

keep Product\_ID Product\_Name Product\_Level Product\_Level\_Name;

run;

c)

proc print data=work.listlevel noobs;

where Product\_Level=3;

run;

Chapter 10.4 Level 2

8.

a)

proc sort data=orion.customer

out=work.customer;

by Country;

run;

b)

data work.allcustomer;

(b,d) merge work.customer(in=Cust)

orion.lookup\_country(rename=(Start=Country

Label=Country\_Name) in=Ctry);

by Country;

keep Customer\_ID Country Customer\_Name Country\_Name;

d) if Cust=1 and Ctry=1;

run;

(c,e) proc print data=work.allcustomer;

run;

(Because it is mixed, so it is not trivial to label the single-part question, I am sorry for that.)