# CP5804: SAS Week 6 Collaborative Tutorial Session

Presented by Sisi





#### SAS Essentials

> Installation:

□ SAS University Edition: https://www.sas.com/en\_au/software/university-edition/download-software.html

□ VirtualBox: https://www.virtualbox.org/wiki/Download\_Old\_Builds\_5\_2, (Tip: please download 5.2.X builds instead of the latest version)

- ➤ Weekly materials:
  - ☐ Assessments → SAS Self-Training Content
  - ☐ Assessments → Assessment 5 (SAS Coursework)





## Troubleshooting VirtualBox

- ➤ Check if you have enabled VT-X in BIOS in startup. Could refer to the link for details: <a href="https://docs.fedoraproject.org/en-US/Fedora/13/html/Virtualization\_Guide/sect-Virtualization-Troubleshooting-Enabling\_Intel\_VT\_and\_AMD\_V\_virtualization\_hardware\_extensions\_in\_BIOS.html;</a>
- ▶ If VT-X is already enabled, check if Hyper\_V is turned off. Try running the following in Command Prompt (Run): dism.exe /Online /Disable-Feature:Microsoft-Hyper-V. Could refer to the link for details:
  https://superuser.com/questions/1153470/vt-x-is-not-available-but-is-enabled-in-bios;
- ➤ If the issue still exists, possibly try using VMware instead of VirtualBox.





#### SAS Assessments

> Submission due:

Week 6 due on Wednesday of Week 7 (22/04/2020 11:59pm AEST) Week 7 non-graded





#### SAS Assessments

- ➤ Marking criteria (2/2):
  - ☐ For activity answer sheets less than or equal to 10 questions:
    - 0 not submitted or submit non-relevant results
    - 1 more than half, but all attempted
    - 1.5 more than 2, less than half
    - 2 less than 2 incorrect answer
  - ☐ For activity answer sheets more than 10 questions:
    - 0 not submitted or submit non-relevant results
    - 1 more than half, but all attempted
    - 1.5 more than 4, less than half
    - 2 less than 4 incorrect answer





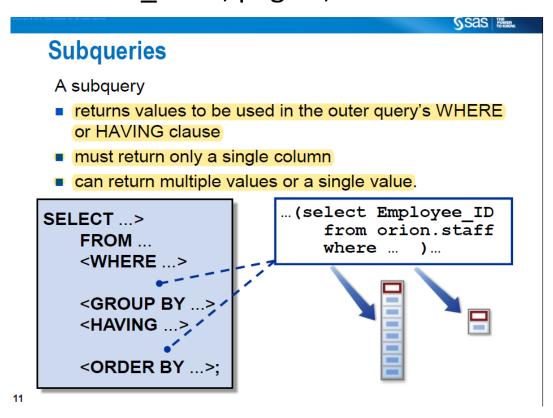
# SAS Help

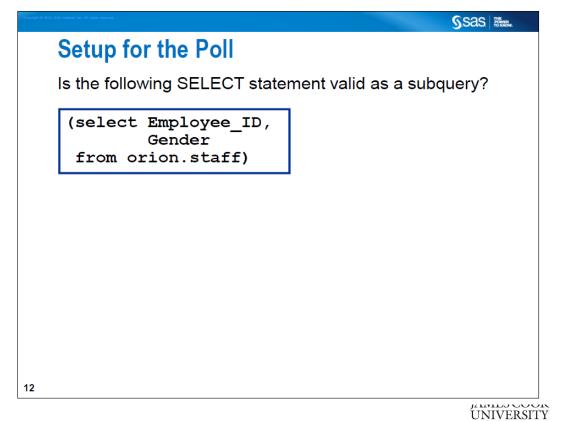
- > Q&A for SAS
- ➤ Setup Instructions: Assessments → SAS Self-Training Content → Video Instructions for SAS Setup
- > Demo





- **>** 5.01:
  - ☐ Preparation: SQ\_Ch05, page 6, slide 12;
  - ☐ SQ\_Ch05, page 5, slide 11.







➤ 5.02:
 □ No prerequisite program, answering based on general definition;
 □ Sample: s105d03.
 ➤ 5.03:
 □ Execute the program s105a01;
 □ SQ\_Ch05, page 13, slide 28.

#### **Setup for the Poll**

- Open the program s105a01.
- Change the IN operator to an equal sign in the code.
- Run the changed program and review the SAS log for messages.

```
proc sql;
select Employee_Name, City, Country
  from orion.employee_addresses
  where Employee_ID =
      (select Employee_ID
            from orion.employee_payroll
            where month(Birth_Date)=2)
      order by 1;
quit;
```

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Sas Power



**>** 5.04:

- ☐ Preparation: SQ\_Ch05, page 22, slide 45;
- ☐ Hint: a subquery must return values from a single column.

#### **Setup for the Poll**

Can this SELECT statement be used as a subquery?

45



Sas Piller



**>** 5.05:

- ☐ Preparation: SQ\_Ch05, page 23, slide 48;
- ☐ Hint: an in-line view can be referenced only in the select statement where it is defined

#### **Setup for the Poll**

```
select Name, emp.Job_Title, Job_Avg
  from (in-line view) as job,
        orion.staff as emp
  where emp.Job_Title=job.Job_Title;
select Job_Title, Job_Avg
  from job;
```

The first SELECT statement uses an in-line view to create data that is referenced with the alias **job**. Can **job** also be referenced in the second SELECT statement?

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Sas HOWER



**>** 5.06: ☐ Preparation: ☐ SQ Ch05, page 29, slide 61; ☐ Step 1 query results: page 28 slide 59; ☐ Noncorrelated subquery: a selfcontained query. It executes independently of the outer query. ☐ In-line view: consists of any valid SQL query, except for ORDER BY

Setup for the Poll

To join the employee\_organization table with the Step 1 query results, you use the query from Step 1 as which of the following?

select distinct Employee\_ID
from orion.order\_fact as of,
orion.product\_dim as p
where of.Product\_ID=p.Product\_ID
and year(Order\_Date)=2011
and Product\_Name contains
'Expedition Zero'
and Employee\_ID ne 99999999;

Sas Rem **Coding the Complex Query** Part 1 Write a query to obtain the employee ID of all employees who sold Expedition Zero merchandise in 2011. select distinct Employee ID from orion.order fact as of, orion.product dim as p where of.Product ID=p.Product ID and year (Order Date) = 2011 and Product Name contains 'Expedition Zero' and Employee ID ne 99999999; PROC SQL Output Employee ID ffffffffffff 121065 s105d08

Celebrating

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YEARS

clause.

**>** 5.07:

- ☐ Preparation: SQ\_Ch05, page 31, slide 67;
- ☐ Hint: a subquery can return values for multiple rows, but must return values for only one column.

#### **Setup for the Poll**

Is it possible to use the entire query in Step 2 as a subquery?

67



Sas Hill



- **>** 6.02:
  - ☐ Preparation: program **s106a01**;
  - ☐ SQ\_Ch06, page 15, slide 32;
  - ☐ **ALL** modifier:
    - Rows from both intermediate result sets are concatenated.
    - Duplicate rows are not removed from the final result tables.

#### **Setup for the Poll**

Open the program **s106a01**, submit the program, and view the report.

Return to the program, add the ALL keyword with the UNION operator, resubmit the program, and view the report. Answer the following question.

Is there any difference in the output with the ALL keyword? Why?

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Sas THE POWER TO KNOW



**>** 6.05:

- ☐ Preparation: SQ\_Ch06, page 31, slide 68;
- □ CORR modifier: Columns are matched by name and nonmatching columns are removed from the intermediate result sets.

#### **Setup for the Poll**

View the PROC SQL code below and respond to the following True/False statement: Adding the CORR keyword to this code will change the results.

proc sql;
select ID, Name from train\_a
except
select ID, Name from train\_b;
quit;

#### Partial train\_a

ID	Name	Date
11	Bob	15JUN2012
16	Sam	5JUN2012
14	Pete	21JUN2012

#### Partial train b

	Name	ID	SDate	EDate
	Bob	11	9JUL2012	13JUL2012
	Pam	15	25JUL2012	27JUL2012
	Kyle	19	12JUL2012	20JUL2012
	Chris	21	29JUL2012	

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Sas Power



- **>** 7.01:
  - **DESCRIBE**: writes information about the table to the SAS log;
  - □ **SELECT**: creates a report that lists the contents of the table.
- **>** 7.06:
  - Submit the second code in Q7.05.

#### Sas Remain 7.05 Quiz What differences are there between the SQL code written. to the SAS log by the DESCRIBE VIEW statement and the CREATE VIEW code, which actually created the view orion.tom zhou? select Employee Name as Name format=\$25.0, Job Title as Title format=\$15.0, Salary 'Annual Salary' format=comma10.2, int((today()-Employee Hire Date)/365.25) as YOS 'Years of Service' from Employee Addresses as a Employee Payroll as p, Employee Organization as o where a.Employee ID=p.Employee ID and o.Employee ID=p.Employee ID and Manager ID=120102; select Employee Name as Name format=\$25.0, Job Title as Title format=\$15.0Salary label='Annual Salary' format=COMMA10.2, int((today()-Employee Hire Date)/365.25) ESCRIBE as YOS label='Years of Service' from EMPLOYEE ADDRESSES a, EMPLOYEE PAYROLL p, EMPLOYEE ORGANIZATION o where (a.Employee ID=p.Employee ID) and (o.Employee ID=p.Employee ID) and (Manager ID=120102);





> 8.01:

- ☐ Metadata: SQ\_Ch08, page 4, slide 6;
- ☐ SQ Ch08, page 10, slide 16;
- **>** 8.02:
  - ☐ Two correct options.

#### Using Dictionary Tables in Other SAS Code

SAS provides views based on the dictionary tables in the **Sashelp** library.

Most of the **Sashelp** library dictionary view names are similar to dictionary table names, but are shortened to eight characters or less. They begin with the letter v and do not end in s. For example:

dictionary.tables = sashelp.vtable

The following code executes successfully:

```
title 'Tables in the ORION Library';
proc print data=sashelp.vtable label;
  var memname nobs nvar;
  where libname='ORION';
run;
```

s108d02

Sas Pour

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# SAS Set Up for Weeks 5 and 6

➤ SAS Self-Training Content → Video Instructions for SAS Setup → SAS Set Up for Weeks 5 and 6

> Demo



