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Assignment 2 - SQL and PLpgSQL

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Specification

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COMP9311 19T2

Assignment 2 SQL, Views, PLpgSQL, Functions

Database Systems

Last updated: **Monday 8th July 3:51pm**

Most recent changes are shown in **red** ... older changes are shown in **brown**.

[Assignment Spec] [\[Database\]](#) [\[Schema Summary\]](#) [\[Testing\]](#) [\[Samples\]](#)

Deadline: 1st August 9pm (Week 9, Thursday)

Aims

This assignment aims to give you practice in

- reading and understanding a moderately large relational schema (MyMyUNSW)
- implementing SQL queries and views to satisfy requests for information
- implementing PLpgSQL functions to aid in satisfying requests for information

The goal is to build some useful data access operations on the MyMyUNSW database. You will find some empty tables. It is OK as they are not necessary for this assignment.

This database has been built over time by Dr. John Shepherd to capture the data behind many student record management systems at UNSW. A theme of this assignment is "dirty data". As John was building the database, using a collection of reports from UNSW's information systems, he discovered that there were some inconsistencies in parts of the data (e.g. students who were mentioned in the student data, but had no enrolment records, and, worse, enrolment records with marks and grades for students who did not exist in the student data). He removed most of these problems as he discovered them, but no doubt missed some. Some of the exercises below aim to uncover such anomalies; please explore the database and see if you can find other anomalies.

Note also that, as the database was constructed, he made some small changes to the schema, in order to deal with the data he had available. For example, there was no starting time for some of the staff

Resource created 3 months ago (Monday 08 July 2019, 03:38:35 PM), last modified 3 months ago (Wednesday 10 July 2019, 10:45:41 AM).

website: <https://www.cse.unsw.edu.au/~cs9311/19T2/assignments/2/spec.php>

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Lingxiao Xu (/users/z5224061) 3 months ago (Sat Aug 03 2019 15:36:52 GMT+1000 (澳大利亚东部标准时间))

Hi

Can we get the ture answers of weekly quizzes?I cant review them in website.

Reply



Helen Paik (/users/z2181240) 3 months ago (Sat Aug 03 2019 16:06:22 GMT+1000 (澳大利亚东部标准时间))

I wonder if the class can help me posting the answers?

If you post the answers, I will confirm if they are correct or not.

I do discuss the quiz answers every week at the start of the lecture, mind you.

Reply



Alexander Catic (/users/z3252894) 3 months ago (Fri Aug 02 2019 10:04:09 GMT+1000 (澳大利亚东部标准时间))

Hi,

I was wondering when we can expect to receive results for both of the assignments? We submitted the first assignment parts 5 and 6 weeks ago... We're almost at the end of the term and the only feedback we've gotten is the weekly quizzes.

Thanks.

Reply



Vidan Milovanovic (/users/z5235775) 3 months ago (Fri Aug 02 2019 15:20:59 GMT+1000 (澳大利亚东部标准时间))

I was also wondering whether we'd receive marks for assignment 1 before/during the submission deadline for the second one

Reply



Helen Paik (/users/z2181240) 3 months ago (Sat Aug 03 2019 16:04:27 GMT+1000 (澳大利亚东部标准时间))

I am going to release them this weekend ... Will put all the quiz marks and assignment 1 marks into the system so that you can check ... Will make a course announcement once done.

Reply



Vidan Milovanovic (/users/z5235775) 3 months ago (Sat Aug 03 2019 17:35:34 GMT+1000 (澳大利亚东部标准时间))

Thanks Helen!

Reply



Sen Zhang (/users/z5218829) 3 months ago (Wed Jul 31 2019 21:20:15 GMT+1000 (澳大利亚东部标准时间))

Hi Guys,

I want to use "case -- when --- then" structure to realize the loop, but the server always reminds me that I didn't put "else" into the structure. If I only have one constraint, what should I do? Can I code " case -- when apple is not in temp.fruits -- then return null; else -- return 'apple' " like that?

Thanks!

Reply



Zhuang Li (/users/z5188950) 3 months ago (Thu Aug 01 2019 09:01:14 GMT+1000 (澳大利亚东部标准时间))

why not put the condition in 'where'?

Reply



Jiyao Li (/users/z5174529) 3 months ago (Wed Jul 31 2019 14:27:49 GMT+1000 (澳大利亚东部标准时间))

Hi Helen/tutors,

I could not access to the pgsql sever. How can I deal with it?

```

uxterm
* WARNING:      It is a criminal offence to:
*
*              i. Obtain access to data without permission
*                 (Penalty 2 years imprisonment)
*              ii. Damage, delete, alter or insert data without permission
*                 (Penalty 10 years imprisonment)
*
*****
No mail.
grieg % pgs start
Using server in /srvr/z5174529/pgsql
server starting
!!!
The PostgreSQL server may not have started correctly.
First try the 'psql -l' command to see if it is actually working.
If it's not, then check at the end of the log file for more details.
The log file is called: /srvr/z5174529/pgsql/Log
grieg % pgs status
Using server in /srvr/z5174529/pgsql
grieg % pgs stop
Using server in /srvr/z5174529/pgsql
pg_ctl: PID file "/srvr/z5174529/pgsql/postmaster.pid" does not exist
Is server running?
grieg % █

```

```

***** This service is for authorised clients only *****

*****
*
* WARNING:      It is a criminal offence to:
*
*              i. Obtain access to data without permission
*                 (Penalty 2 years imprisonment)
*              ii. Damage, delete, alter or insert data without permission
*                 (Penalty 10 years imprisonment)
*
*****
No mail.
grieg % pgs start
Using server in /srvr/z5174529/pgsql
server starting
!!!
The PostgreSQL server may not have started correctly.
First try the 'psql -l' command to see if it is actually working.
If it's not, then check at the end of the log file for more details.
The log file is called: /srvr/z5174529/pgsql/Log
grieg % █

```

Thanks!

Jiyao

Reply

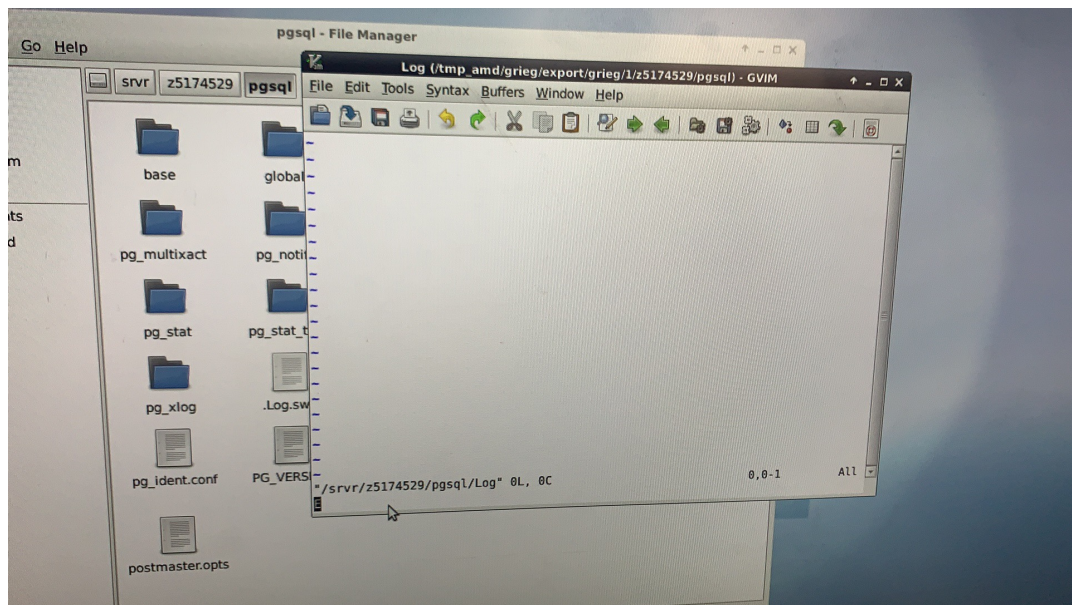
Helen Paik (/users/z2181240) 3 months ago (Wed Jul 31 2019 14:45:13 GMT+1000 (澳大利亚东部标准时间))

can you check the log file (at the end of the log file) - and see what it says?

Reply



Jiyao Li (/users/z5174529) 3 months ago (Wed Jul 31 2019 14:57:32 GMT+1000 (澳大利亚东部标准时间))



Helen,

Here it is.

Reply



Helen Paik (/users/z2181240) 3 months ago (Wed Jul 31 2019 16:03:54 GMT+1000 (澳大利亚东部标准时间))

That can't be the right file ...

I think the log file is actually 'lower-case l' (log). Can you check if you have:

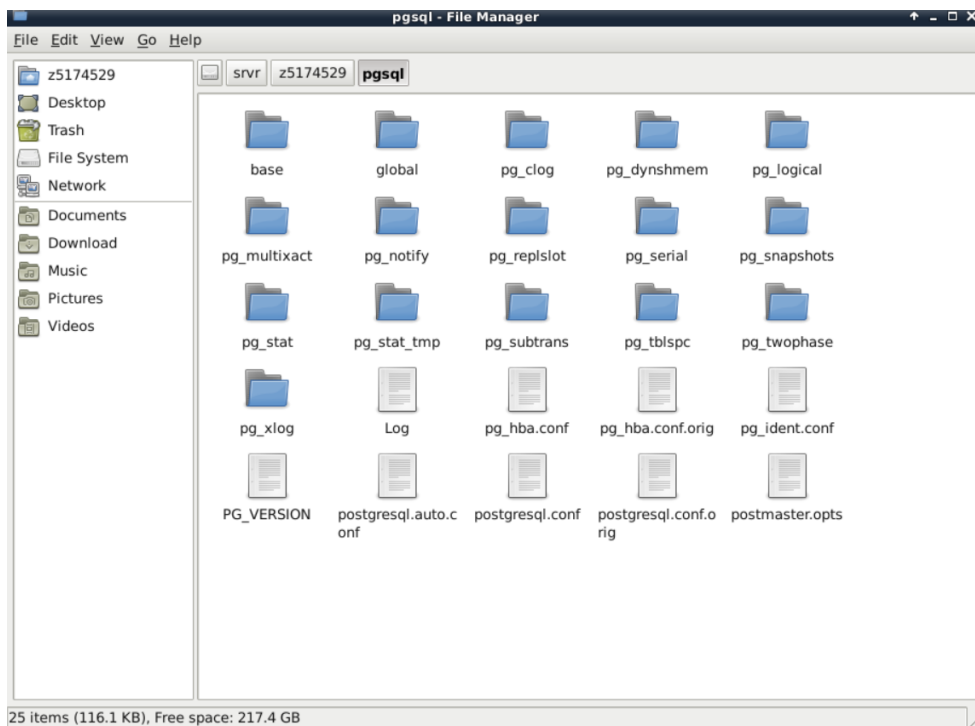
/srvr/zyourhome/pgsql/data/log

The log file can't be empty like that, I'd imagine.

Reply



Jiyao Li (/users/z5174529) 3 months ago (Wed Jul 31 2019 16:29:56 GMT+1000 (澳大利亚东部标准时间))



Helen, I do not have such lower-case log file, what do I suppose to do then?

Reply



Helen Paik (/users/z2181240) 3 months ago (Wed Jul 31 2019 16:56:21 GMT+1000 (澳大利亚东部标准时间))

Is this happening just now? (ie, were you able to run the server before?)

Maybe you should contact CSG (ss@cse.unsw.edu.au).

Reply



Jiyao Li (/users/z5174529) 3 months ago (Wed Jul 31 2019 17:02:32 GMT+1000 (澳大利亚东部标准时间))

Just happened last night before I finished ass Q6. I ran the sever every day.

Reply



Helen Paik (/users/z2181240) 3 months ago (Wed Jul 31 2019 17:13:42 GMT+1000 (澳大利亚东部标准时间))

OK ... do contact CSG (ss@cse.unsw.edu.au).

Explain the situation to them and they will look into it.

Reply



Jiyao Li (/users/z5174529) 3 months ago (Wed Jul 31 2019 17:19:47 GMT+1000 (澳大利亚东部标准时间))

Okay, by the way, what dies ss refer to?

Reply



Helen Paik (/users/z2181240) 3 months ago (Wed Jul 31 2019 17:35:40 GMT+1000 (澳大利亚东部标准时间))

SS -> system support.

Reply



Jiyao Li (/users/z5174529) 3 months ago (Wed Jul 31 2019 17:41:48 GMT+1000 (澳大利亚东部标准时间))

Thank you Helen!

Reply



Chengkai Huang (/users/z5249859) 3 months ago (Wed Jul 31 2019 01:13:08 GMT+1000 (澳大利亚东部标准时间))

Hi Helen/Tutors,

In Q9, instead of copying the codes from transcript() function, can I simply just refer to transcript() function inside my function?

eg.

create or replace Q9():

begin

x := transcript (_sid)

end

My function then manipulates the x to get the final output.

thanks!

Chengkai

Reply



Zhuang Li (/users/z5188950) 3 months ago (Wed Jul 31 2019 16:45:36 GMT+1000 (澳大利亚东部标准时间))

It depends on your own implementation, it should be fine as long as there is no error and the result is correct.

Reply



Shahryar Babar Bhatti (/users/z5267909) 3 months ago (Tue Jul 30 2019 23:53:43 GMT+1000 (澳大利亚东部标准时间))

can anybody give hint about question 6 noOfOfferings ho do i calculate it or approach it

Reply



Atul Manish Kamat (/users/z5234196) 3 months ago (Wed Jul 31 2019 17:15:38 GMT+1000 (澳大利亚东部标准时间))

Hi Shahryar..You basically have to select those OFFERED courses that DOES NOT have a staff. You have to look for tables that contains the info on "OFFERED" courses and also the info on "STAFF TEACHING A COURSE".

Hope it helps :)

Reply



Zhuang Li (/users/z5188950) 3 months ago (Wed Jul 31 2019 16:50:00 GMT+1000 (澳大利亚东部标准时间))

If its hard to make it in one go, then I would suggest you to make several views, and get to the answer step by step.

Reply



Nan Wu (/users/z5238997) 3 months ago (Tue Jul 30 2019 10:04:44 GMT+1000 (澳大利亚东部标准时间))

Hi, Helen.

When I was handling with the Q8, I found almost all the data before 2000 has the problem that there are overlapping on starting and ending date. While I really didn't find the indication from the question. How may we deal with these data? Thank you so much!!

id	starting	ending
249	1972-01-31	1972-12-31
250	1972-12-01	1973-01-31
251	1973-01-01	1973-06-30
253	1973-12-01	1974-01-31
254	1974-01-01	1974-06-30
262	1976-12-01	1977-01-31
263	1977-01-01	1977-06-30
265	1977-12-01	1978-01-31
266	1978-01-01	1978-06-30
268	1978-12-01	1979-01-31
269	1979-01-01	1979-06-30
271	1979-12-01	1980-01-31
272	1980-01-01	1980-06-30

.....

310	1992-12-01	1993-01-31
311	1993-01-01	1993-06-30

Reply



Atul Manish Kamat (/users/z5234196) [3 months ago \(Tue Jul 30 2019 12:31:35 GMT+1000 \(澳大利亚东部标准时间\)\)](#)

Hi Nan,

Once you find the effective starting dates and effective ending dates, it won't overlap.

Reply



Nan Wu (/users/z5238997) [3 months ago \(Tue Jul 30 2019 17:46:43 GMT+1000 \(澳大利亚东部标准时间\)\)](#)

Thank you, and I found the answer on the previous queries.

Reply



Owen Riddy (/users/z3251243) [3 months ago \(Tue Jul 30 2019 09:49:55 GMT+1000 \(澳大利亚东部标准时间\)\)](#)

Tutor's Tip/Debugging Queries

I saw several people in the labs yesterday with queries that do not pass the check scripts but don't have obvious mistakes when the output is inspected. This is a tip for how to debug those cases in case anyone is still struggling with one last query.

If you look at the documentation for psql's meta-commands (<https://www.postgresql.org/docs/9.4/app-psql.html> (<https://www.postgresql.org/docs/9.4/app-psql.html>)) you will find the \o command. This redirects PostgreSQL's output and can be used for debugging these situations.

- 1) Save the output of your query and the correct answer to a file with \o
- 2) Compare the files using the `diff` utility.

Eg, in PostgreSQL:

```
assn2=# \o myquery
assn2=# select * from q9(3169329);
assn2=# \o expected
assn2=# select * from q9a_expected;
assn2=# \o
```

Then in the terminal:

```
$ diff myquery expected
... List of differences ...
$
```

Reply



Chengkai Huang (/users/z5249859) [3 months ago \(Thu Aug 01 2019 09:38:03 GMT+1000 \(澳大利亚东部标准时间\)\)](#)

Thanks Owen, that helped me find the extra space in my Q9 output

Reply



Adi Teja Dasari (/users/z5235276) 3 months ago (Mon Jul 29 2019 19:26:52 GMT+1000 (澳大利亚东部标准时间))

Can anyone share mymyunsw.dump file, I am unable to download it, in fact unable to find it anywhere.

Reply



Helen Paik (/users/z2181240) 3 months ago (Mon Jul 29 2019 20:03:08 GMT+1000 (澳大利亚东部标准时间))

Hi Adi,

Since you seem to be in a hurry, here is the zip file containing everything.

You could actually use the browser to download the file if you know the file path ...

Here is the path:

<http://www.cse.unsw.edu.au/~cs9311/19T2/assignments/2/all.zip>

But I stress again ... I don't recommend that you use your local machine directly. If anything use VLAB or shell terminal to connect to Grieg. Anyway, it's up to you to work it out what is best for your work productivity.

Reply



Helen Paik (/users/z2181240) 3 months ago (Mon Jul 29 2019 19:36:20 GMT+1000 (澳大利亚东部标准时间))

See my answer to your previous question in another thread.

I think you really need to get use to using CSE account for your own benefit. Have a look at the Week 9 lab if you need to learn about CSE VLAB environment.

Reply



Adi Teja Dasari (/users/z5235276) 3 months ago (Mon Jul 29 2019 19:22:27 GMT+1000 (澳大利亚东部标准时间))

`cp /home/cs9311/web/19T2/assignments/2/mymyunsw.dump`

No such file or directory. Can you please help me to download the dump file. I am not doing on greig. I want to do in my system.

Reply



Helen Paik (/users/z2181240) 3 months ago (Mon Jul 29 2019 19:33:57 GMT+1000 (澳大利亚东部标准时间))

Hello Adi,

You need to copy (cp) the file from the cs9311 path to your CSE account first. Then download the file to your local computer like your laptop. You are free to work on whatever machine you'd like, but understand that the testing and marking environment is Grieg. This always has been clear from the start, so "This works on my machine on my version of PostgreSQL" isn't going to give you a way-out if there is a problem.

Anyway, what you need to do is:

YOUR CSE home> cp /home/cs9311/web/19T2/assignments/2/mymyunsw.dump.gz .
(mind the 'dot' here)

YOUR CSE home> gunzip mymyunsw.dump.gz

Then you have mymyunsw.dump. You need to download it either via scp or FTP transfer tool from your local machine.

Reply



Adi Teja Dasari (/users/z5235276) 3 months ago (Mon Jul 29 2019 22:23:27 GMT+1000 (澳大利亚东部标准时间))

Thanks a lot. I understand, I am working in my system but I will test on both machines.

Reply

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