

CST8276 Lab Exam Submission Spring 2021

Lab Section or Time: Monday 6:00 PM _____

Student ID#: 040991363 _____

Student Name: Abdullah Zeki Ilgun (Apo) _____

NOTE:

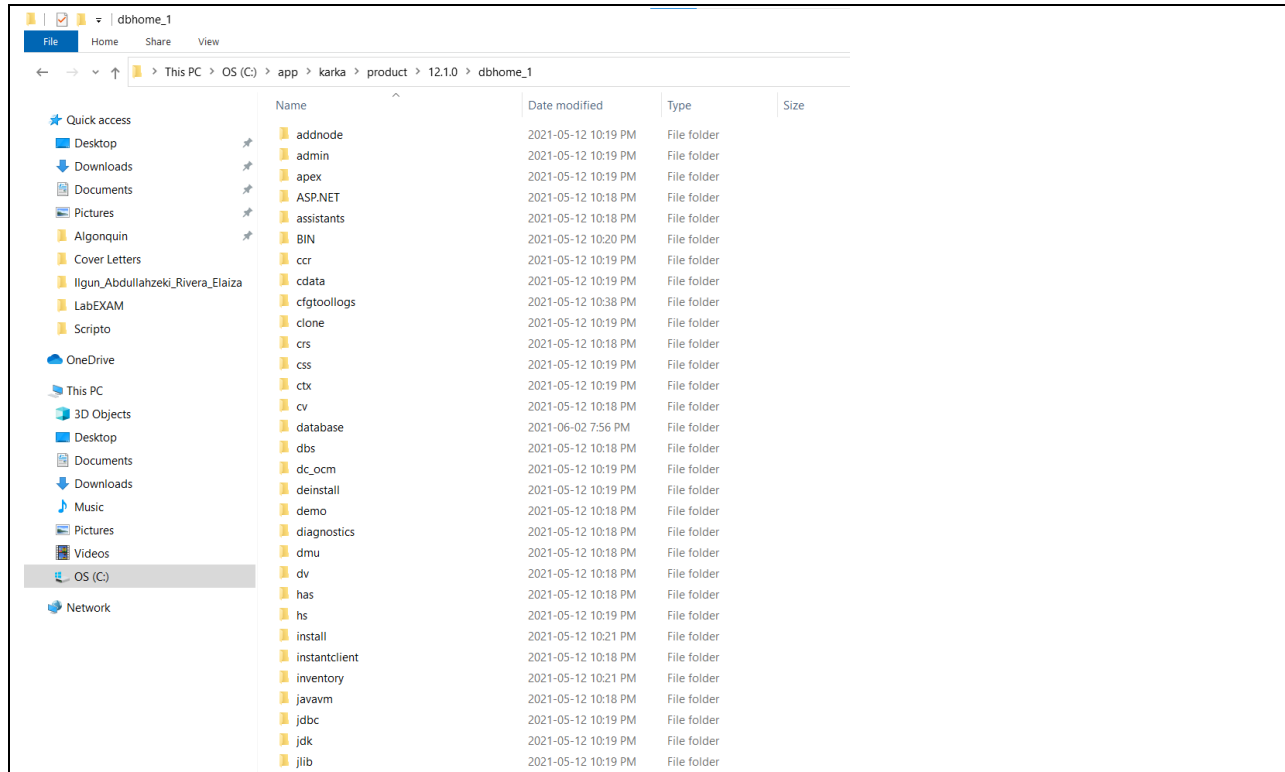
The test is 90 minutes duration.

- No talking.
- Each student will use their own laptop computer, with Oracle, MongoDB, and Neo4j installed as per the laboratory assignments.
- Each student has a personalized version of the test, available online in Brightspace under “Lab Exam – Quiz” which **must be handed-in online to record your set of required tasks.**
- There are a sequence of 20 required tasks, with screen shots or short answer responses required to be provided using the submission document provided on BrightSpace (under Content > Lab Exam). ***You must show your work (using screen shots) for each of the required tasks.***
- Submit your submission document through BrightSpace. This must be done during the allotted time period. **Manage your time carefully.**
- Access to the Internet, including the use of Oracle online documentation, using the Google search engine, and access to online resources, **IS PERMITTED.**
- Collaboration with other students (or anyone else) through any means **IS NOT PERMITTED.**

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Submission for Requirements: (0.5 points each)

1.



The screenshot shows a Windows File Explorer window with the address bar path: > This PC > OS (C:) > app > karka > product > 12.1.0 > dbhome_1. The left sidebar shows 'Quick access' and 'This PC' sections. The main pane displays a list of folders with columns for Name, Date modified, Type, and Size.

Name	Date modified	Type	Size
addnode	2021-05-12 10:19 PM	File folder	
admin	2021-05-12 10:19 PM	File folder	
apex	2021-05-12 10:19 PM	File folder	
ASP.NET	2021-05-12 10:18 PM	File folder	
assistants	2021-05-12 10:18 PM	File folder	
BIN	2021-05-12 10:20 PM	File folder	
ccr	2021-05-12 10:19 PM	File folder	
cdata	2021-05-12 10:19 PM	File folder	
cfgtoollogs	2021-05-12 10:38 PM	File folder	
clone	2021-05-12 10:19 PM	File folder	
crs	2021-05-12 10:18 PM	File folder	
css	2021-05-12 10:19 PM	File folder	
ctx	2021-05-12 10:19 PM	File folder	
cv	2021-05-12 10:18 PM	File folder	
database	2021-06-02 7:56 PM	File folder	
dbfs	2021-05-12 10:18 PM	File folder	
dc_ocr	2021-05-12 10:19 PM	File folder	
deinstall	2021-05-12 10:19 PM	File folder	
demo	2021-05-12 10:18 PM	File folder	
diagnostics	2021-05-12 10:18 PM	File folder	
dms	2021-05-12 10:18 PM	File folder	
dv	2021-05-12 10:18 PM	File folder	
has	2021-05-12 10:18 PM	File folder	
hs	2021-05-12 10:19 PM	File folder	
install	2021-05-12 10:21 PM	File folder	
instantclient	2021-05-12 10:18 PM	File folder	
inventory	2021-05-12 10:21 PM	File folder	
javavm	2021-05-12 10:18 PM	File folder	
jdbc	2021-05-12 10:19 PM	File folder	
jdk	2021-05-12 10:19 PM	File folder	
jlib	2021-05-12 10:19 PM	File folder	

2.

```
SQL> CREATE TABLE sales02
2      (prod_id      NUMBER(4)
3      , quantity_sold NUMBER(3)
4      )
5      PARTITION BY RANGE (quantity_sold)
6      ( PARTITION sales_p1 VALUES LESS THAN (36)
7      , PARTITION sales_p3 VALUES LESS THAN (MAXVALUE)
8      );

Table created.
```

3.

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```
SQL> DESC SCOTT.DEPT;
```

Name	Null?	Type
DEPTNO	NOT NULL	NUMBER(2)
DNAME		VARCHAR2(14)
LOC		VARCHAR2(13)

```
SQL> SELECT COUNT(*) FROM SCOTT.EMP;
```

COUNT(*)
14

4.

```
SQL> SELECT V$TABLESPACE.NAME, V$DATAFILE.NAME FROM V$DATAFILE JOIN V$TABLESPACE ON V$DATAFILE.TS# = V$TABLESPACE.TS# WHERE V$TABLESPACE.NAME = 'TEMP';
```

```
NAME
```

```
NAME
```

```
TEMP
```

```
C:\APP\KARKA\ORADATA\ORCL\TEMP01.DBF
```

5.

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```
Administrator: Command Prompt - RMAN TARGET SYSBACKUP NOCATALOG;
RMAN> BACKUP DATABASE;

Starting backup at 09-AUG-21
using channel ORA_DISK_1
channel ORA_DISK_1: starting full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
input datafile file number=00007 name=C:\APP\KARKA\ORADATA\ORCL\EXAMPLE01.DBF
input datafile file number=00003 name=C:\APP\KARKA\ORADATA\ORCL\SYS_AUX01.DBF
input datafile file number=00001 name=C:\APP\KARKA\ORADATA\ORCL\SYSTEM01.DBF
input datafile file number=00005 name=C:\APP\KARKA\ORADATA\ORCL\UNDOTBS01.DBF
input datafile file number=00006 name=C:\APP\KARKA\ORADATA\ORCL\USERS01.DBF
channel ORA_DISK_1: starting piece 1 at 09-AUG-21
channel ORA_DISK_1: finished piece 1 at 09-AUG-21
piece handle=C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\01_MF_NNDF_TAG20210809T190958_JK3FG6FO_.BKF
tag=TAG20210809T190958 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:15
channel ORA_DISK_1: starting full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
including current control file in backup set
including current SPFILE in backup set
channel ORA_DISK_1: starting piece 1 at 09-AUG-21
channel ORA_DISK_1: finished piece 1 at 09-AUG-21
piece handle=C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\01_MF_NCSNF_TAG20210809T190958_JK3FGPK7_.BKF
tag=TAG20210809T190958 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:01
Finished backup at 09-AUG-21

Administrator: Command Prompt - RMAN TARGET SYSBACKUP NOCATALOG;
RMAN> LIST BACKUP;

List of Backup Sets
=====

BS Key Type LV Size Device Type Elapsed Time Completion Time
-----
10 Full 1.54G DISK 00:00:07 09-AUG-21
BP Key: 10 Status: AVAILABLE Compressed: NO Tag: TAG20210809T190958
Piece Name: C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\01_MF_NNDF_TAG20210809T190958_JK3FG6FO_.BKF
List of Datafiles in backup set 10
File LV Type Ckp SCN Ckp Time Name
-----
1 Full 6398008 09-AUG-21 C:\APP\KARKA\ORADATA\ORCL\SYSTEM01.DBF
3 Full 6398008 09-AUG-21 C:\APP\KARKA\ORADATA\ORCL\SYS_AUX01.DBF
5 Full 6398008 09-AUG-21 C:\APP\KARKA\ORADATA\ORCL\UNDOTBS01.DBF
6 Full 6398008 09-AUG-21 C:\APP\KARKA\ORADATA\ORCL\USERS01.DBF
7 Full 6398008 09-AUG-21 C:\APP\KARKA\ORADATA\ORCL\EXAMPLE01.DBF
BS Key Type LV Size Device Type Elapsed Time Completion Time
-----
11 Full 9.86M DISK 00:00:01 09-AUG-21
BP Key: 11 Status: AVAILABLE Compressed: NO Tag: TAG20210809T190958
Piece Name: C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\01_MF_NCSNF_TAG20210809T190958_JK3FGPK7_.BKF
```

6.

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File Explorer window showing the directory path: This PC > OS (C:) > app > karka > fast_recovery_area > orcl > ORCL > BACKUPSET > 2021_08_09.

Name	Date modified	Type	Size
O1_MF_NCSNF_TAG20210809T190958_JK...	2021-08-09 7:10 PM	BKP File	10,112 KB
O1_MF_NNDF_TAG20210809T190958_J...	2021-08-09 7:10 PM	BKP File	1,614,176 ...

```
RMAN> DELETE BACKUP;

using channel ORA_DISK_1

List of Backup Pieces
BP Key  BS Key  Pc# Cp# Status      Device Type Piece Name
-----
10      10      1   1   AVAILABLE DISK       C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\O1_MF_NNDF_TAG20210809T190958_JK3FG6FO_.BKP
11      11      1   1   AVAILABLE DISK       C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\O1_MF_NCSNF_TAG20210809T190958_JK3FGPK7_.BKP

Do you really want to delete the above objects (enter YES or NO)? YES
deleted backup piece
backup piece handle=C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\O1_MF_NNDF_TAG20210809T190958_JK3FG6FO_.BKP RECID=10 STAMP=1080155398
deleted backup piece
backup piece handle=C:\APP\KARKA\FAST_RECOVERY_AREA\ORCL\ORCL\BACKUPSET\2021_08_09\O1_MF_NCSNF_TAG20210809T190958_JK3FGPK7_.BKP RECID=11 STAMP=1080155414
Deleted 2 objects

RMAN> LIST BACKUP;

specification does not match any backup in the repository
```

7.

```
SQL> ALTER USER SCOTT IDENTIFIED BY TIGER;

User altered.
```

8.

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```
SQL> SELECT TABLESPACE_NAME, BYTES, MAX_BYTES, (100*(BYTES/MAX_BYTES)) AS PERCENT FROM DBA_TS_QUOTAS;
```

TABLESPACE_NAME	BYTES	MAX_BYTES	PERCENT
SYSAUX	1441792	104857600	1.375
SYSAUX	0	-1	0
SYSAUX	0	-1	0
USERS	0	-1	0
SYSAUX	1572864	-1	-157286400
EXAMPLE	10420224	-1	-1.042E+09
USERS	65536	-1	-6553600
SYSAUX	0	-1	0

8 rows selected.

9.

```
SQL> CREATE USER LABEXAMABDULLAHZEKI IDENTIFIED BY apoOracle123;
```

User created.

```
SQL> GRANT CONNECT TO LABEXAMABDULLAHZEKI;
```

Grant succeeded.

```
SQL> CREATE ROLE TESTROLE;
```

Role created.

```
SQL> GRANT TESTROLE TO LABEXAMABDULLAHZEKI;
```

Grant succeeded.

```
Enter user-name: SCOTT
Enter password:
Last Successful login time: Mon Aug 09 2021 16:04:51 -04:00

Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> GRANT INSERT ON EMP TO TESTROLE;
```

Grant succeeded.

```
SQL> GRANT INSERT ON DEPT TO TESTROLE;
```

Grant succeeded.

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10.

```
Copyright (c) 1982, 2014, Oracle. All rights reserved.

Enter user-name: LABEXAMABDULLAHZEKI
Enter password:

Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> INSERT INTO SCOTT.DEPT VALUES(50, 'A', 'A');

1 row created.
```

11.

```
Enter user-name: SYS AS SYSDBA
Enter password:

Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> ALTER SYSTEM SET UNDO_RETENTION=1200 SCOPE=BOTH;

System altered.

SQL> CREATE PFILE FROM SPFILE;

File created.

SQL> SHOW PARAMETER UNDO_RETENTION;

NAME                                TYPE        VALUE
-----
undo_retention                       integer     1200
SQL> █
```

12.

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```
SQL> SET TIMING ON;
SQL> CREATE TABLE LAB_USER(NAME VARCHAR(10), LASTNAME VARCHAR(10));

Table created.

Elapsed: 00:00:00.00
SQL> DECLARE
  2  i  NUMBER := 1;
  3  BEGIN
  4      LOOP
  5          INSERT INTO LAB_USER
  6              VALUES ( 'Apo', 'Ilgun');
  7          Commit;
  8          i := i+1;
  9          EXIT WHEN i>15000;
 10      END LOOP;
 11  END;
 12  /

PL/SQL procedure successfully completed.

Elapsed: 00:00:00.72
SQL> █
```

13.

```
SQL*Plus: Release 12.1.0.2.0 Production on Mon Aug 9 18:21:46 2021

Copyright (c) 1982, 2014, Oracle. All rights reserved.

Enter user-name: SCOTT
Enter password:
Last Successful login time: Mon Aug 09 2021 18:11:42 -04:00

Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> EXPLAIN PLAN FOR SELECT EMP.EMPNO, EMP.ENAME, DEPT.DEPTNO, DEPT.DNAME FROM EMP, DEPT WHERE EMP.EMPNO > 25;

Explained.

SQL> SELECT PLAN_TABLE_OUTPUT FROM TABLE(DBMS_XPLAN.DISPLAY());

PLAN_TABLE_OUTPUT
-----
Plan hash value: 2034389985
```


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```
SQL> SELECT PLAN_TABLE_OUTPUT FROM TABLE(DBMS_XPLAN.DISPLAY());

PLAN_TABLE_OUTPUT
-----
Plan hash value: 2034389985

-----
| Id | Operation                | Name | Rows  | Bytes | Cost (%CPU)| Time     |
-----|-----|-----|-----|-----|-----|-----|
|  0 | SELECT STATEMENT         |      |     56 | 1288 |    10  (0)| 00:00:01 |
|  1 |  MERGE JOIN CARTESIAN    |      |     56 | 1288 |    10  (0)| 00:00:01 |
|  2 |    TABLE ACCESS FULL    | DEPT |        4 |    52 |        3  (0)| 00:00:01 |
|  3 |      BUFFER SORT         |      |     14 |   140 |        7  (0)| 00:00:01 |
|*  4 |        TABLE ACCESS FULL| EMP  |     14 |   140 |         2  (0)| 00:00:01 |
-----

PLAN_TABLE_OUTPUT
-----

Predicate Information (identified by operation id):
-----

   4 - filter("EMP"."EMPNO">25)

16 rows selected.
```

14.

```
SQL> CREATE MATERIALIZED VIEW LABEXAM_VIEW AS
  2  SELECT EMP.EMPNO, DNAME FROM EMP NATURAL JOIN DEPT WHERE ENAME='SMITH';

Materialized view created.
```

15.

```
SQL> CREATE USER NEWEXAMUSER IDENTIFIED BY NEWTIGER;

User created.

SQL> GRANT PLUSTRACE TO NEWEXAMUSER;

Grant succeeded.
```

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```
Enter user-name: NEWEXAMUSER
Enter password:
Last Successful login time: Mon Aug 09 2021 18:25:51 -04:00

Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> SET AUTOTRACE ON;
SQL> █
```

16.

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```
SQL> SET AUTOTRACE ON;
SQL> SELECT ENAME, DNAME from EMP NATURAL JOIN DEPT WHERE ENAME='SMITH';

ENAME      DNAME
-----
SMITH      RESEARCH

Execution Plan
-----
Plan hash value: 3625962092

-----
| Id | Operation                      | Name    | Rows  | Bytes | Cost (%CPU)| Time |
|----|-----|-----|-----|-----|-----|-----|
| 0  | SELECT STATEMENT                |         | 1     | 22    | 4   (0)| 00:00:01 |
| 1  | NESTED LOOPS                    |         | 1     | 22    | 4   (0)| 00:00:01 |
| 2  | NESTED LOOPS                    |         | 1     | 22    | 4   (0)| 00:00:01 |
|* 3  | TABLE ACCESS FULL              | EMP     | 1     | 9     | 3   (0)| 00:00:01 |
|* 4  | INDEX UNIQUE SCAN               | PK_DEPT | 1     |       | 0   (0)| 00:00:01 |
| 5  | TABLE ACCESS BY INDEX ROWID    | DEPT    | 1     | 13    | 1   (0)| 00:00:01 |
-----
```

```
| 5 | TABLE ACCESS BY INDEX ROWID| DEPT | 1 | 13 | 1 (0)| 00  
:00:01 |
```


Predicate Information (identified by operation id):

```
3 - filter("EMP"."ENAME"='SMITH')  
4 - access("EMP"."DEPTNO"="DEPT"."DEPTNO")
```

Note

```
- this is an adaptive plan
```

Statistics

```
1 recursive calls  
0 db block gets  
9 consistent gets  
0 physical reads  
0 redo size  
618 bytes sent via SQL*Net to client  
552 bytes received via SQL*Net from client  
2 SQL*Net roundtrips to/from client  
0 sorts (memory)  
0 sorts (disk)  
1 rows processed
```

17.

Command Prompt - mongo

```
> db.apoFirstExample.insertMany([  
... {firstname: 'Apo', lastname: 'Ilgun', email: 'apo@apo.com'},  
... {firstname: 'Mickey', lastname: 'Mouse', email: 'mouse@apo.com'},  
... {firstname: 'Donald', lastname: 'Duck', email: 'duck@apo.com'}  
... ]);  
{  
  "acknowledged" : true,  
  "insertedIds" : [  
    ObjectId("6110940f89bf2edf87ee1ad2"),  
    ObjectId("6110940f89bf2edf87ee1ad3"),  
    ObjectId("6110940f89bf2edf87ee1ad4")  
  ]  
}  
> _
```

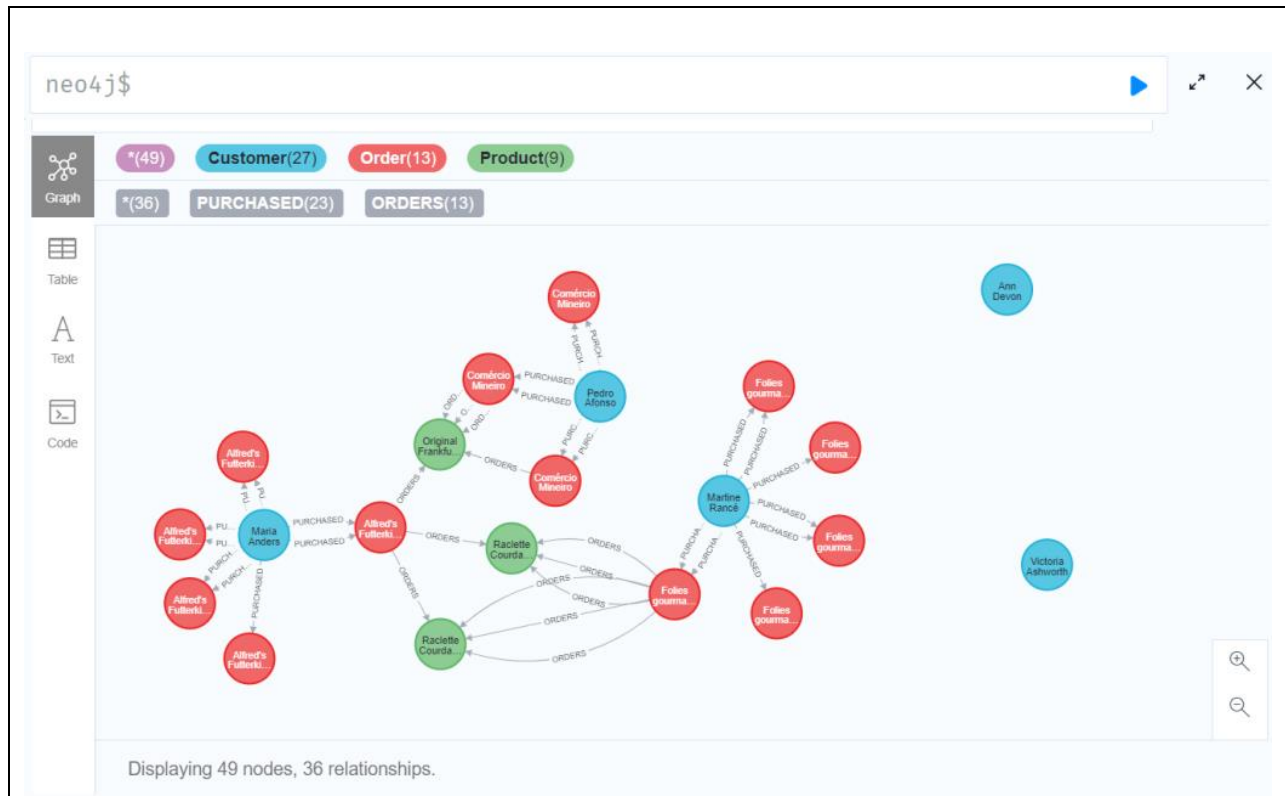
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18.

```
> db.apoFirstExample.find({"root.expenseitem.description":"Hotel"});
{ "_id" : ObjectId("60f9bb0c588b8ac2f4334776"), "root" : { "employeeinfo" : [ { "name" : "Jane Winston", "date" : "2001-01-01", "code" : "0001" } ], "expenseitem" : [ { "date" : "2001-01-01", "description" : "Airfare", "amount" : "500.34" }, { "date" : "2001-01-01", "description" : "Hotel", "amount" : "200" }, { "date" : "2001-01-01", "description" : "Taxi Fare", "amount" : "100.00" }, { "date" : "2001-01-01", "description" : "Long Distance Phone Charges", "amount" : "57.89" }, { "date" : "2001-01-01", "description" : "Food", "amount" : "82.19" }, { "date" : "2001-01-02", "description" : "Food", "amount" : "17.89" }, { "date" : "2001-01-02", "description" : "Personal Items", "amount" : "32.54" }, { "date" : "2001-01-03", "description" : "Taxi Fare", "amount" : "75.00" }, { "date" : "2001-01-03", "description" : "Food", "amount" : "36.45" }, { "date" : "2001-01-03", "description" : "New Suit", "amount" : "750.00" } ] } }
>
```

19.

20.



That's it! You're done!