

Overview

The purpose of this lab is to become familiar with importing and exporting data, killing a session that is deadlocked and using the Oracle dictionary.

Contents

- Part 1 - Use SQL Developer, the exp/imp utility and SQL Loader for data loading
- Part 2 – Use SQL Developer for DBA Activities
- Part 3 – Use Oracle Data Dictionary

Due Date:

The lab is due no later than Friday Nov 10th. You must **hand in** PDFs of your work to the dropbox on D2L.

Scoring:

Lab is worth **20** marks.

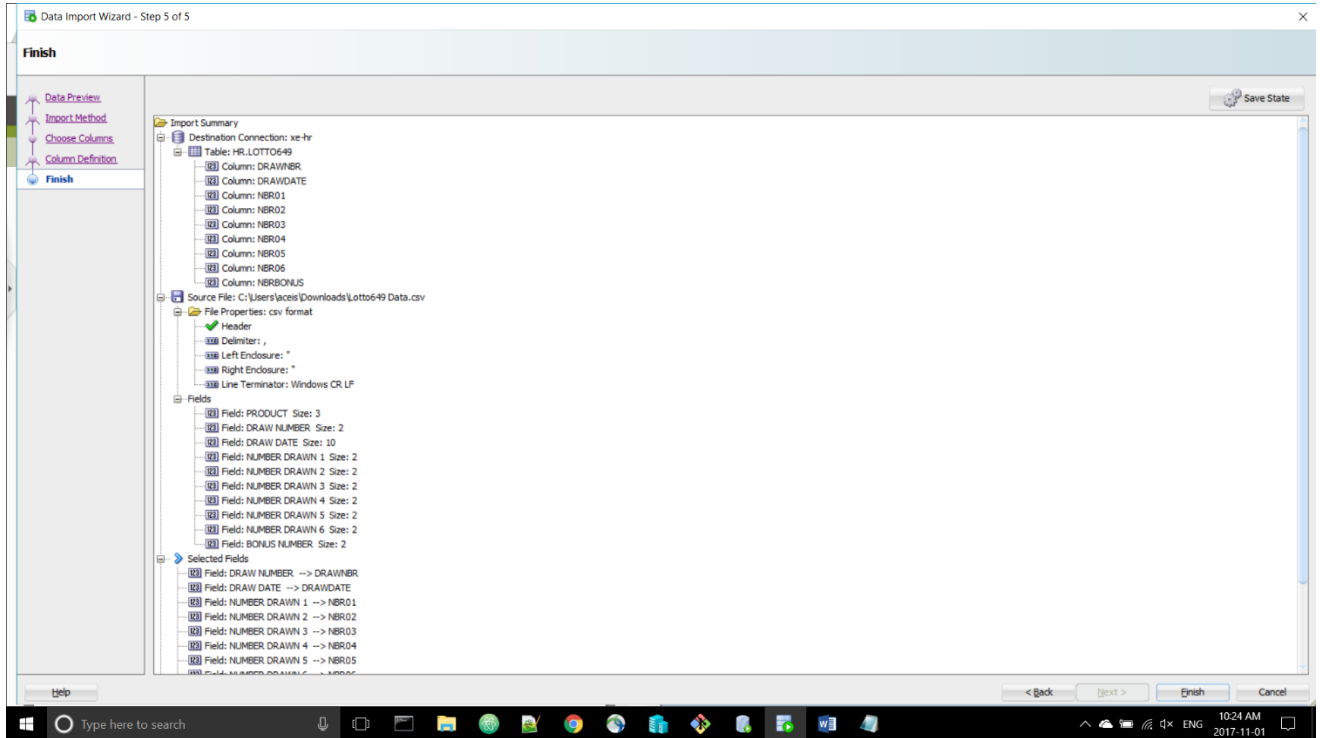
Part 1 – Data Loading

The following lab is to be completed using SQL Developer, SQL Loader and the XE edition of Oracle. In part one you will be using various methods to unload and load data into an Oracle table(s).

- ☐ 1. Login into SQL Developer as **SYS** and create a new user **Lab07** with a password of **Lab07** and give them the DBA role.
- ☐ 2. Login to SQL Developer as user **Lab07** and run the **Lotto649.sql** script from the Lab07 D2L folder. This will create a table to hold all of the Lotto 6/49 draw results.

Hand In

3. The data to be loaded is contained in **Lotto649 Data.csv** file in the Lab07 D2L folder. Load that data into the Lotto649 table using SQL Developer. SQL Developer contains an import wizard that you can step through to load the data into the table. On step 1, make sure you select the Windows <CR><LF> as the Line Terminator. On step 4, make sure you import the date in the proper format. On step 5, expand the import summary fields and take a screen shot. (1 Mark)



Hand In

4. After finishing the load, take a screen shoot of the first page displayed for the Data tab of the Lotto649 table. (1 Mark)

Oracle SQL Developer: Table LAB07.LOTTO649@xe-hr

FileEditViewNavigateRunTeamToolsWindowHelp

Connections

Start Pagexe-sys.sqlxe-sys.sqlxe-hr.sqlxe-hr.LOTTO649

ColumnsDataModelConstraintsGrantsStatisticsTriggersFlashbackDependenciesDetailsPartitionsIndexesSQL

Connections

Camousin db

xe-hr

Tables (Filtered)

LOTTO649

Views

Editing Views

Indexes

Packages

Procedures

Functions

Operators

Queues

DBA

Connections

xe-sys

DrawerDrawdateNBR01NBR02NBR03NBR04NBR05NBR06NBRBONUS

11 02-06-123111214414313

22 02-06-19833363739419

33 02-06-26162324273934

44 02-07-03391013204334

55 02-07-105142131344745

66 02-07-178202125314133

77 02-07-241825283336427

88 02-07-317161731404826

99 02-08-075102327373833

1010 02-08-14415303746483

1111 02-08-21792133384245

1212 02-08-281117192036439

1313 02-09-047141720374734

1414 02-09-112528293035443

1515 02-09-188183639414731

1616 02-09-259121314444818

1717 02-10-02414184043445

1818 02-10-0913161834353626

1919 02-10-1611232528293627

2020 02-10-237182325374539

2121 02-10-3011181931374541

2222 02-11-068141618314845

2323 02-11-134112324254541

2424 02-11-20341933344839

2525 02-11-275172128304336

2626 02-12-046172436384629

2727 02-12-1149101143463

2828 02-12-187132332334536

2929 02-12-2511182228353742

3030 03-01-0125263135454812

Type here to search

2027-11-017:40 AM

ENG

- ☐ 5. Create a new folder called **Lotto649 Export Loader Format** and now do an export of the lotto649 table using the **loader** format into that folder. Change the *Line Terminator* to “Windows <CR><LF>” and the *Save As* to Separate Files.

Hand In

6. Take a screen shot of the contents of the .ctl and .ldr files (first 20 lines only). (1 Mark)

The screenshot shows a Notepad++ window with two files open: LOTTO649_DATA_TABLE.ctl and LOTTO649_DATA_TABLE.ldr. The .ctl file contains a list of lottery numbers and dates, and the .ldr file contains the corresponding load data for the MongoDB database.

LOTTO649_DATA_TABLE.ctl

```

1 1|1982-06-12 00:00:00|3|11|12|14|41|43|13|
2 2|1982-06-19 00:00:00|8|3|36|37|39|41|9|
3 3|1982-06-26 00:00:00|1|6|23|24|27|39|34|
4 4|1982-07-03 00:00:00|3|9|10|13|20|43|34|
5 5|1982-07-10 00:00:00|5|14|21|31|34|47|45|
6 6|1982-07-17 00:00:00|8|20|21|25|31|41|33|
7 7|1982-07-24 00:00:00|18|25|28|33|36|42|7|
8 8|1982-07-31 00:00:00|7|16|17|31|40|48|26|
9 9|1982-08-07 00:00:00|5|10|23|27|37|38|33|
10 10|1982-08-14 00:00:00|4|15|30|37|46|48|3|
11 11|1982-08-21 00:00:00|7|9|21|33|38|42|45|
12 12|1982-08-28 00:00:00|11|17|19|20|36|43|9|
13 13|1982-09-04 00:00:00|7|14|17|20|37|47|34|
14 14|1982-09-11 00:00:00|25|28|29|30|35|44|3|
15 15|1982-09-18 00:00:00|8|18|36|39|41|47|31|
16 16|1982-09-25 00:00:00|9|12|13|14|44|48|18|
17 17|1982-10-02 00:00:00|4|14|18|40|43|44|5|
18 18|1982-10-09 00:00:00|13|16|18|34|35|36|26|
19 19|1982-10-16 00:00:00|11|23|25|29|36|27|
20 20|1982-10-23 00:00:00|7|18|23|25|37|45|39|
21 21|1982-10-30 00:00:00|11|18|19|31|37|45|41|
22 22|1982-11-06 00:00:00|8|14|16|18|31|48|45|
23 23|1982-11-13 00:00:00|4|11|23|24|25|45|41|
24 24|1982-11-20 00:00:00|3|4|19|33|34|48|39|
25 25|1982-11-27 00:00:00|5|17|21|28|30|43|36|
26 26|1982-12-04 00:00:00|6|17|24|36|38|46|29|
27 27|1982-12-11 00:00:00|4|9|10|11|43|46|31|
28 28|1982-12-18 00:00:00|7|13|23|32|33|45|36|
29 29|1982-12-25 00:00:00|11|18|22|28|35|37|42|
30 30|1983-01-01 00:00:00|25|26|31|35|45|48|12|
31 31|1983-01-08 00:00:00|11|19|25|31|32|36|44|
32 32|1983-01-15 00:00:00|8|34|37|39|41|47|18|
33 33|1983-01-22 00:00:00|5|10|30|35|36|45|13|
34 34|1983-01-29 00:00:00|8|22|26|27|34|42|14|
35 35|1983-02-05 00:00:00|3|5|6|33|38|39|8|
36 36|1983-02-12 00:00:00|10|14|25|31|44|47|17|
37 37|1983-02-19 00:00:00|11|13|15|16|24|31|9|
38 38|1983-02-26 00:00:00|11|12|19|25|29|44|48|
39 39|1983-03-05 00:00:00|2|7|21|22|30|33|3|
40 40|1983-03-12 00:00:00|11|15|25|38|41|43|37|
41 41|1983-03-19 00:00:00|2|10|11|31|43|49|29|
42 42|1983-03-26 00:00:00|21|24|25|32|39|49|40|
43 43|1983-04-02 00:00:00|4|10|23|38|41|46|43|
44 44|1983-04-09 00:00:00|20|24|28|35|42|46|27|

```

LOTTO649_DATA_TABLE.ldr

```

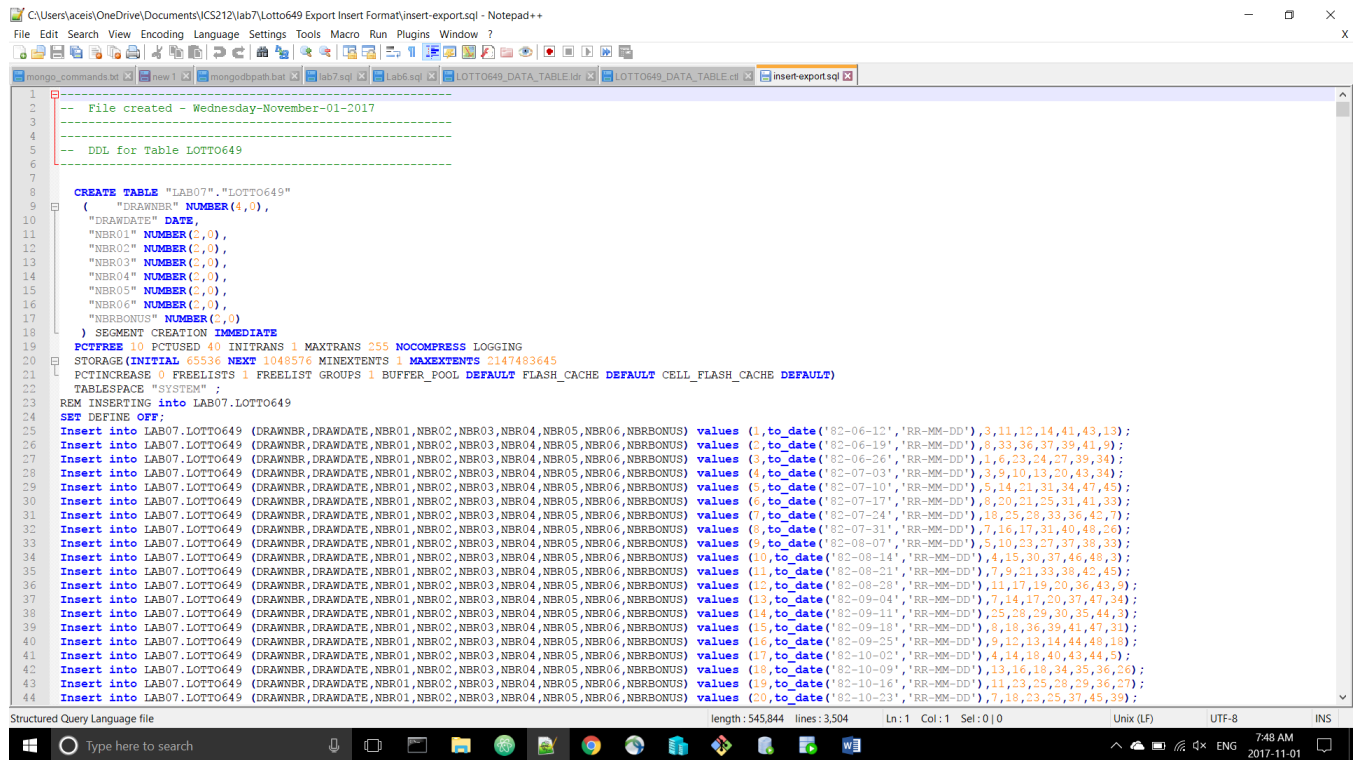
1 OPTIONS (ERRORS=345)
2 LOAD DATA
3 INFILE 'C:\Users\aceis\OneDrive\Documents\ICS212\lab7\Lotto649 Export Loader Format\LOTTO649
4 APPEND
5 CONTINUEIF NEXT(1:1) = '#'
6 INTO TABLE "LAB07"."LOTTO649"
7 FIELDS TERMINATED BY '|'
8 OPTIONALLY ENCLOSED BY '"' AND '"'
9 TRAILING NULLCOLS (
10 "DRAWNR",
11 "DRAWDATE" DATE "YYYY-MM-DD HH24:MI:SS" ,
12 "NBR01" ,
13 "NBR02" ,
14 "NBR03" ,
15 "NBR04" ,
16 "NBR05" ,
17 "NBR06" ,
18 "NBRBONUS" )
19

```

- ☐ 7. Create a new folder called **Lotto649 Export Insert Format** and do an export of the lotto649 table using the **insert** format.

Hand In

8. Take a screen shot of the contents of the export.sql file (first 20 lines only). (1 Mark)

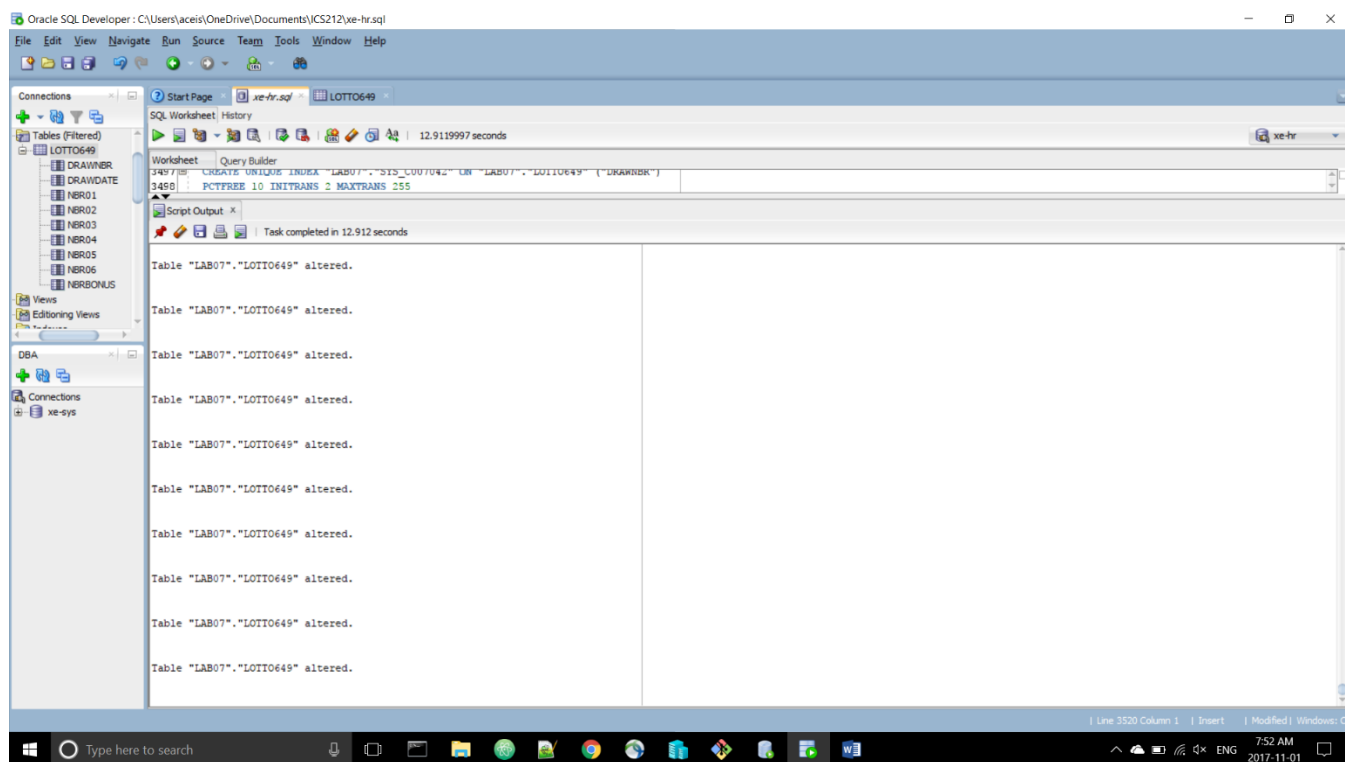


```
-- File created - Wednesday-November-01-2017
--
-- DDL for Table LOTTO649
--
CREATE TABLE "LAB07"."LOTTO649"
(
  "DRAWNR" NUMBER(4,0),
  "DRAWDATE" DATE,
  "NBR01" NUMBER(2,0),
  "NBR02" NUMBER(2,0),
  "NBR03" NUMBER(2,0),
  "NBR04" NUMBER(2,0),
  "NBR05" NUMBER(2,0),
  "NBR06" NUMBER(2,0),
  "NBRBONUS" NUMBER(2,0)
) SEGMENT CREATION IMMEDIATE
PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255 NOCOMPRESSION LOGGING
STORAGE (INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645
PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
TABLESPACE "SYSTEM"
;
REM INSERTING into LAB07.LOTTO649
SET DEFINE OFF;
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (1,to_date('82-06-12','RR-MM-DD'),3,11,12,14,41,43,13);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (2,to_date('82-06-19','RR-MM-DD'),8,33,36,37,39,41,9);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (3,to_date('82-06-26','RR-MM-DD'),1,6,23,24,27,39,34);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (4,to_date('82-07-03','RR-MM-DD'),3,9,10,13,20,43,34);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (5,to_date('82-07-10','RR-MM-DD'),5,14,21,31,34,47,45);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (6,to_date('82-07-17','RR-MM-DD'),8,20,21,25,31,41,33);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (7,to_date('82-07-24','RR-MM-DD'),18,25,28,33,36,45,7);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (8,to_date('82-07-31','RR-MM-DD'),7,16,17,31,40,48,29);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (9,to_date('82-08-07','RR-MM-DD'),5,10,23,27,37,38,33);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (10,to_date('82-08-14','RR-MM-DD'),4,15,30,37,46,48,3);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (11,to_date('82-08-21','RR-MM-DD'),7,9,21,33,38,42,45);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (12,to_date('82-08-28','RR-MM-DD'),11,17,19,20,36,43,9);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (13,to_date('82-09-04','RR-MM-DD'),7,14,17,20,37,47,34);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (14,to_date('82-09-11','RR-MM-DD'),25,28,29,30,35,44,3);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (15,to_date('82-09-18','RR-MM-DD'),8,18,36,39,41,47,31);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (16,to_date('82-09-25','RR-MM-DD'),9,12,13,14,44,48,19);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (17,to_date('82-10-02','RR-MM-DD'),4,14,18,40,43,44,5);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (18,to_date('82-10-09','RR-MM-DD'),13,16,18,34,35,36,26);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (19,to_date('82-10-16','RR-MM-DD'),11,23,25,28,29,36,27);
Insert into LAB07.LOTTO649 (DRAWNR,DRAWDATE,NBR01,NBR02,NBR03,NBR04,NBR05,NBR06,NBRBONUS) values (20,to_date('82-10-23','RR-MM-DD'),7,18,23,25,37,45,39);
```

9. Drop the lotto69 table.

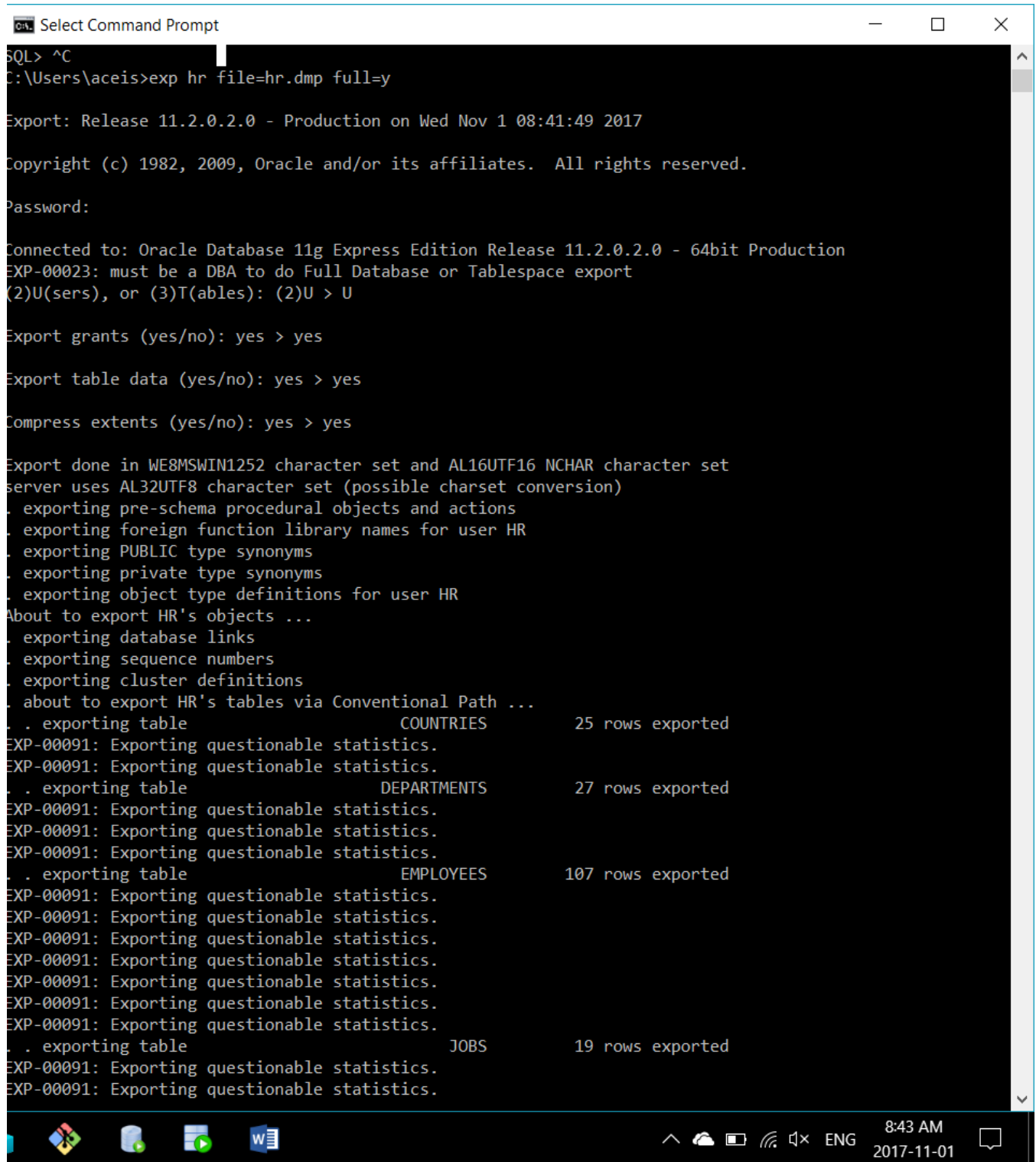
Hand In

10. In SQL Developer, run the file that was created in step 7 and take a screen shoot of the results. (1 Mark)



Hand In

11. From the command line, use the **exp** utility to export the entire **HR** schema into a file called **hr.dmp**. Take a screen shoot of the command you executed and the results. (2 Marks)



```
SQL> ^C
C:\Users\aceis>exp hr file=hr.dmp full=y

Export: Release 11.2.0.2.0 - Production on Wed Nov 1 08:41:49 2017

Copyright (c) 1982, 2009, Oracle and/or its affiliates. All rights reserved.

Password:

Connected to: Oracle Database 11g Express Edition Release 11.2.0.2.0 - 64bit Production
EXP-00023: must be a DBA to do Full Database or Tablespace export
(2)U(sers), or (3)T(ables): (2)U > U

Export grants (yes/no): yes > yes

Export table data (yes/no): yes > yes

Compress extents (yes/no): yes > yes

Export done in WE8MSWIN1252 character set and AL16UTF16 NCHAR character set
server uses AL32UTF8 character set (possible charset conversion)
. exporting pre-schema procedural objects and actions
. exporting foreign function library names for user HR
. exporting PUBLIC type synonyms
. exporting private type synonyms
. exporting object type definitions for user HR
About to export HR's objects ...
. exporting database links
. exporting sequence numbers
. exporting cluster definitions
. about to export HR's tables via Conventional Path ...
. . exporting table COUNTRIES 25 rows exported
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
. . exporting table DEPARTMENTS 27 rows exported
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
. . exporting table EMPLOYEES 107 rows exported
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
. . exporting table JOBS 19 rows exported
EXP-00091: Exporting questionable statistics.
EXP-00091: Exporting questionable statistics.
```

- ## Hand In

- ```
C:\Users\aceis>imp hr file=hr.dmp

Import: Release 11.2.0.2.0 - Production on Wed Nov 1 08:53:41 2017

Copyright (c) 1982, 2009, Oracle and/or its affiliates. All rights reserved.

Password:

Connected to: Oracle Database 11g Express Edition Release 11.2.0.2.0 - 64bit Production

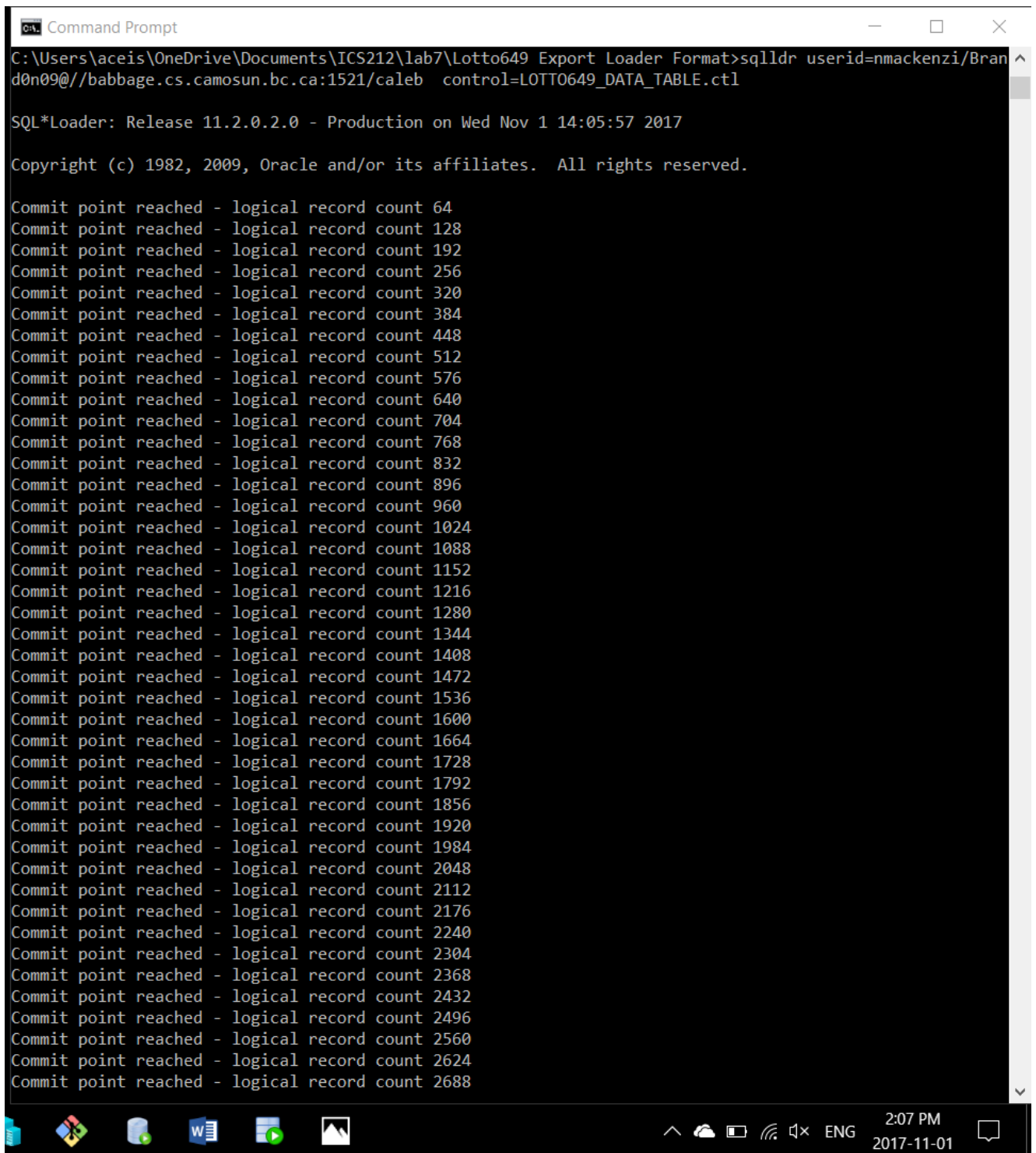
Export file created by EXPORT:V11.02.00 via conventional path
import done in WE8MSWIN1252 character set and AL16UTF16 NCHAR character set
import server uses AL32UTF8 character set (possible charset conversion)
. importing HR's objects into HR
IMP-00015: following statement failed because the object already exists:
"CREATE SEQUENCE "LOCATIONS_SEQ" MINVALUE 1 MAXVALUE 9900 INCREMENT BY 100 S"
"START WITH 3300 NOCACHE NOORDER NOCYCLE"
IMP-00015: following statement failed because the object already exists:
"CREATE SEQUENCE "DEPARTMENTS_SEQ" MINVALUE 1 MAXVALUE 9990 INCREMENT BY 10 "
"START WITH 280 NOCACHE NOORDER NOCYCLE"
IMP-00015: following statement failed because the object already exists:
"CREATE SEQUENCE "EMPLOYEES_SEQ" MINVALUE 1 MAXVALUE 99999999999999999999"
"99999 INCREMENT BY 1 START WITH 207 NOCACHE NOORDER NOCYCLE"
. . importing table "COUNTRIES" 25 rows imported
. . importing table "DEPARTMENTS" 27 rows imported
. . importing table "EMPLOYEES" 107 rows imported
. . importing table "JOBS" 19 rows imported
. . importing table "JOB_HISTORY" 10 rows imported
. . importing table "LOCATIONS" 23 rows imported
. . importing table "REGIONS" 4 rows imported
IMP-00015: following statement failed because the object already exists:
"CREATE FORCE VIEW "HR"."EMP_DETAILS_VIEW" ("EM"
"PLOYEE_ID","JOB_ID","MANAGER_ID","DEPARTMENT_ID","LOCATION_ID","COUNTRY_ID""
","FIRST_NAME","LAST_NAME","SALARY","COMMISSION_PCT","DEPARTMENT_NAME","JOB_"
"TITLE","CITY","STATE_PROVINCE","COUNTRY_NAME","REGION_NAME") AS "
"SELECT"
" e.employee_id,"
" e.job_id,"
" e.manager_id,"
" e.department_id,"
" d.location_id,"
" l.country_id,"
" e.first_name,"
" e.last_name,"
" e.salary,"
" e.commission_pct,"
" d.department_name,"
" j.job_title,"
```



**Hand In**

14. Use the files created in step 5 and sqldr to load the lotto649 data into your student account on babbage. Take a screen shoot of the sqldr command and the output from the sqldr command. (3 Marks)

*Hint: Create the Lotto649 table on babbage first. You can edit and rename the ctl and ldr files if you want to.*



```
Command Prompt
C:\Users\aceis\OneDrive\Documents\ICS212\lab7\Lotto649 Export Loader Format>sqlldr userid=nmackenzi/Brand0n09@//babbage.cs.camosun.bc.ca:1521/caleb control=LOTT0649_DATA_TABLE.ct1

SQL*Loader: Release 11.2.0.2.0 - Production on Wed Nov 1 14:05:57 2017

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Commit point reached - logical record count 64
Commit point reached - logical record count 128
Commit point reached - logical record count 192
Commit point reached - logical record count 256
Commit point reached - logical record count 320
Commit point reached - logical record count 384
Commit point reached - logical record count 448
Commit point reached - logical record count 512
Commit point reached - logical record count 576
Commit point reached - logical record count 640
Commit point reached - logical record count 704
Commit point reached - logical record count 768
Commit point reached - logical record count 832
Commit point reached - logical record count 896
Commit point reached - logical record count 960
Commit point reached - logical record count 1024
Commit point reached - logical record count 1088
Commit point reached - logical record count 1152
Commit point reached - logical record count 1216
Commit point reached - logical record count 1280
Commit point reached - logical record count 1344
Commit point reached - logical record count 1408
Commit point reached - logical record count 1472
Commit point reached - logical record count 1536
Commit point reached - logical record count 1600
Commit point reached - logical record count 1664
Commit point reached - logical record count 1728
Commit point reached - logical record count 1792
Commit point reached - logical record count 1856
Commit point reached - logical record count 1920
Commit point reached - logical record count 1984
Commit point reached - logical record count 2048
Commit point reached - logical record count 2112
Commit point reached - logical record count 2176
Commit point reached - logical record count 2240
Commit point reached - logical record count 2304
Commit point reached - logical record count 2368
Commit point reached - logical record count 2432
Commit point reached - logical record count 2496
Commit point reached - logical record count 2560
Commit point reached - logical record count 2624
Commit point reached - logical record count 2688
```

## Part II DBA Activities

In part two you will be using SQL\*Plus to create a deadlock situation and then SQL Developer to kill the session that is deadlocked.

- ☐ 1. Login into SQL Developer as **SYS** and create two new user **User1** with a password of **User1** and **User2** with a password of **User2**, give them both the DBA role.

- ☐ 2. From the command line, start up an SQL\*Plus session with **User1**. Enter the following commands:

```
CREATE TABLE mydual AS SELECT * FROM DUAL;
INSERT INTO mydual VALUES ('Y');
INSERT INTO mydual VALUES ('Z');
COMMIT;
SELECT * FROM mydual;
UPDATE mydual SET dummy = 'Q';
```

- ☐ 3. From a new command line, start up a second SQL\*Plus session with **User2**. Enter the following command:

```
UPDATE User1.mydual SET dummy = 'M';
```

**Demo**

4. The second session should now be blocked. Start SQL Developer with your **SYS** account (which has the DBA role). Look for a blocking session and take corrective action. (3 Marks)

## Part III – Oracle Data Dictionary

In part three you will be writing queries against the Oracle Data Dictionary. The following queries can all be written in SQL Developer while logged onto the **HR** user in either Oracle Express or on the babbage server.

Hint: <http://oracledba.ezpowell.com/oracle/dataDictViews.html>

**Demo**

1. Write a query to display all the objects in the HR schema sorted by the object type. (1 Mark)

**Demo**

2. Write a query to display all the tables and the table comments in the HR schema sorted by table name. (1 Mark)

**Demo**

3. Write a query to display the system privileges that HR has. (1 mark)

**Demo**

4. Write a query to display the roles that HR has. (1 Mark)

**Demo**

5. Write a query to display all the tables along with the tablespace and schema they are in that HR has access to. (1 Mark)