Student Name	Lin Rui
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CS130 Databases

Lab 7 Report

PART 1

Lab 7 Question 1: Update the Lab 7 property table such that any listing date on the 13th or 14th of October 2017 is updated to the 15th of October 2017. You are asked to specify the number of rows affected by this change.

SQL Language:

UPDATE cs130_2017_lab7_property
SET listingdate = '2017-10-15'
WHERE listingdate = '2017-10-13' OR listingdate = '2017-10-14'

Running result: *UPDATE 134*

Query Editor | Query History

```
1  UPDATE cs130_2017_lab7_property
2  SET listingdate = '2017-10-15'
3  WHERE listingdate = '2017-10-13' OR listingdate = '2017-10-14'
```

Data Output | Explain | Messages | Notifications

```
UPDATE 134
```

Lab 7 Question 2: UPDATE the asking price of any house which satisfies the following criteria. If the current asking price is less than €100,000 but greater than €95,000 then the asking price is updated to €100,000. You are asked to specify the number of rows affected by this change.

SQL Language:

UPDATE cs130_2017_lab7_property
SET askingprice = 100000
WHERE askingprice > 95000 AND askingprice < 100000

Running result: *UPDATE 42*

Query Editor | Query History

```
1  UPDATE cs130_2017_lab7_property
2  SET askingprice = 100000
3  WHERE askingprice > 95000 AND askingprice < 100000
```

Data Output | Explain | Messages | Notifications

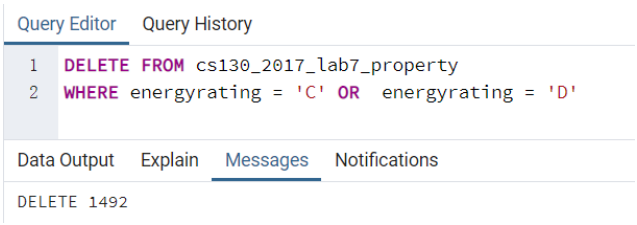
```
UPDATE 42

Query returned successfully in 89 msec.
```

Lab 7 Question 3: The agent Property Kings are changing their selling model and will no longer list any houses with C or D energy ratings. This only applies to Semidetached houses. Write an SQL statement to delete all of the house listings by Property Kings matching these criteria. You are asked to specify the number of rows affected by this change.

SQL Language:

DELETE FROM cs130_2017_lab7_property
WHERE energyrating = 'C' OR energyrating = 'D'

Running result: *DELETE 1492*



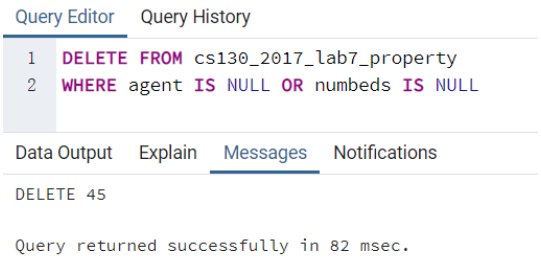
Lab 7 Question 4: Write an SQL statement to delete any listing where the agent is null or the number of beds is null. You are asked to specify the number of rows affected by this change.

SQL Language:

DELETE FROM cs130_2017_lab7_property

WHERE agent IS NULL OR numbeds IS NULL

Running result: *DELETE 45*



Lab 7 Question 5: The agents CS130 Estates are decreasing the asking price by 8% of their houses whose asking prices are between 300000 and 400000. Write an SQL statement to perform this update. You are asked to specify the number of rows affected by this change.

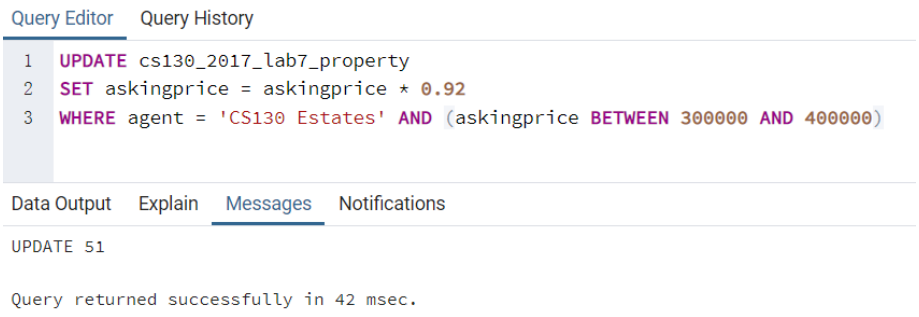
SQL Language:

UPDATE cs130_2017_lab7_property

*SET askingprice = askingprice * 0.92*

WHERE agent = 'CS130 Estates' AND (askingprice BETWEEN 300000 AND 400000)

Running result: *UPDATE 51*



Lab 7 Question 6: Write an SQL statement which removes any house listing with the address field satisfying the following criteria: total length of the field is greater than 20 char acters, the field has at least four consecutive digits in the address field, and the address finishes with the word Road. You are asked to specify the number of rows affected by this change.

SQL Language:

DELETE FROM cs130_2017_lab7_property

*WHERE char_length(address)>20 AND address ~'\d{4,}.*Road$'*

Running result: *DELETE 7*

Query Editor | Query History

```
1  DELETE FROM cs130_2017_lab7_property
2  WHERE char_length(address)>20 AND address ~'\d{4,}.*Road$'
```

Data Output | Explain | Messages | Notifications

```
DELETE 7
```

PART 2

Lab 7 Question 7: Write an appropriate JOIN query to list every student (name, gender, email and course) who is enrolled on the module with code or ID 'CS123' for any semester. You are asked to specify the number of rows returned by this query.

SQL Language:

*SELECT * FROM lab7_modules*

JOIN lab7_students

ON moduleid = 'CS123'

Running result: *100 rows affected*

Query Editor | Query History

```
1  SELECT * FROM lab7_modules
2  JOIN lab7_students
3  ON moduleid = 'CS123'
```

Messages

```
Successfully run. Total query runtime: 49 msec.
100 rows affected.
```

Data Output | Explain | Notifications

	moduleid text	moduletitle text	modulecredits integer	modulesemester character varying (50)	moduleca integer	studentid text	studentfirstname character varying (50)	studentlastname character varying (50)	studentgender character varying (6)	studentemail text	studentcourse text
1	CS123	Spatial Data ...	18	Semester 2	50	SN00200	Norma	Wagner	Female	Norma.Wagner....	BSc SCIENCE
2	CS123	Spatial Data ...	18	Semester 2	50	SN44793	Ernest	Perkins	Male	Ernest.Perkins....	BSc SCIENCE
3	CS123	Spatial Data ...	18	Semester 2	50	SN83648	Howard	Kim	Male	Howard.Kim.20...	BA ARTS DOUBLE...
4	CS123	Spatial Data ...	18	Semester 2	50	SN88710	Paul	Carroll	Male	Paul.Carroll.201...	BSc SCIENCE
5	CS123	Spatial Data ...	18	Semester 2	50	SN58810	Irene	Knight	Female	Irene.Knight.20...	BA ARTS DOUBLE...

Lab 7 Question 8: Write an appropriate JOIN query to list every enrollment which involves female students in Semester 1. You are asked to specify the number of rows returned by this query.

SQL Language:

*SELECT * FROM lab7_enrolledon,lab7_students,lab7_modules*

WHERE lab7_enrolledon.moduleid = lab7_modules.moduleid

AND lab7_enrolledon.studentid = lab7_students.studentid

AND studentgender = 'Female' AND modulesemester = 'Semester 1'

Running result: *89 rows affected*

Query Editor | Query History

```
1  SELECT * FROM lab7_enrolledon,lab7_students,lab7_modules
2  WHERE lab7_enrolledon.moduleid = lab7_modules.moduleid
3  AND lab7_enrolledon.studentid = lab7_students.studentid
4  AND studentgender = 'Female' AND modulesemester = 'Semester 1'
```

Messages

```
Successfully run. Total query runtime: 45 msec.
89 rows affected.
```

Data Output | Explain | Notifications

	studentid text	moduleid text	studentid text	studentfirstnan character varyi	studentlastnam character varyin	studentgender character varyin	studentemail text	studentcourse text	moduleid text	moduletitle text	modulecredits integer	modulesemester character varying (50)
1	SN00200	CS130	SN00200	Norma	Wagner	Female	Norma.Wagner....	BSc SCIENCE	CS130	Introduction t...	14	Semester 1
2	SN00200	CS852	SN00200	Norma	Wagner	Female	Norma.Wagner....	BSc SCIENCE	CS852	Software Test...	14	Semester 1
3	SN58810	CS576	SN58810	Irene	Knight	Female	Irene.Knight.20...	BA ARTS DOUBLE...	CS576	Data Structur...	14	Semester 1
4	SN58810	CS130	SN58810	Irene	Knight	Female	Irene.Knight.20...	BA ARTS DOUBLE...	CS130	Introduction t...	14	Semester 1
5	SN44256	CS238	SN44256	Betty	Franklin	Female	Betty.Franklin.2...	BA ARTS DOUBLE...	CS238	Fourier Analy...	10	Semester 1

Lab 7 Question 9: Write a query to list all of the enrollments for any students who have a 2017 email address from Maynooth University. You are asked to specify the number of rows returned by this query.

SQL Language:

*SELECT * FROM lab7_enrolledon,lab7_students,lab7_modules*
WHERE lab7_enrolledon.moduleid = lab7_modules.moduleid
AND lab7_enrolledon.studentid = lab7_students.studentid
*AND studentemail ~ '.*2017.*'*

Running result: *91 rows affected*

Query Editor | Query History

```
SELECT * FROM lab7_enrolledon,lab7_students,lab7_modules
WHERE lab7_enrolledon.moduleid = lab7_modules.moduleid
AND lab7_enrolledon.studentid = lab7_students.studentid
AND studentemail ~ '.*2017.*'
```

Messages

```
Successfully run. Total query runtime: 60 msec.
91 rows affected.
```

Data Output | Explain | Notifications

	studentid text	moduleid text	studentid text	studentfirstnan character varyi	studentlastname character varyin	studentgender character varyin	studentemail text	studentcourse text	moduleid text	moduletitle text	modulecredi integer	modulesemester character varying (	moduleca integer
1	SN98212	CS123	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...	CS123	Spatial Da...	18	Semester 2	50
2	SN98212	CS286	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...	CS286	Transform...	17	Semester 2	50
3	SN98212	CS596	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...	CS596	Marketing...	10	Semester 2	[null]
4	SN98212	CS852	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...	CS852	Software ...	14	Semester 1	50
5	SN98212	CS130	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...	CS130	Introducti...	14	Semester 1	30

Lab 7 Question 10: Write a query to display every enrollment of all students who are enrolled on modules which have module credits of between 10 and 15 credits inclusive and where student is not an undergraduate. Undergraduates have studentcourse with BSc or BA. All other student courses are Postgraduate. You are asked to specify the number of rows returned by this query.

SQL Language:

*SELECT * FROM lab7_enrolledon,lab7_modules,lab7_students*
WHERE lab7_enrolledon.moduleid = lab7_modules.moduleid
AND lab7_enrolledon.studentid = lab7_students.studentid
AND modulecredits BETWEEN 10 AND 15
AND studentcourse ~ '^[^(BSc)^(BA)]'

Running result: *59 rows affected*

Query Editor | Query History

```
SELECT * FROM lab7_enrolledon,lab7_modules,lab7_students
WHERE lab7_enrolledon.moduleid = lab7_modules.moduleid
AND lab7_enrolledon.studentid = lab7_students.studentid
AND modulecredits BETWEEN 10 AND 15
AND studentcourse ~ '^[^(BSc)^(BA)]'
```

Messages

```
Successfully run. Total query runtime: 59 msec.
59 rows affected.
```

Data Output | Explain | Notifications

	studentid text	moduleid text	moduleid text	moduletitle text	modulecredi integer	modulesemester character varying (	moduleca integer	studentid text	studentfirstnan character varyi	studentlastnam character varyin	studentgender character varyin	studentemail text	studentcourse text
1	SN98212	CS596	CS596	Marketing...	10	Semester 2	[null]	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...
2	SN98212	CS852	CS852	Software ...	14	Semester 1	50	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...
3	SN98212	CS130	CS130	Introducti...	14	Semester 1	30	SN98212	Brnaby	De Carlo	Male	Brnaby.De Carlo.201...	Higher Dip. Comp...
4	SN31346	CS238	CS238	Fourier An...	10	Semester 1	40	SN31346	Dominic	Mariotte	Male	Dominic.Mariotte.20...	Higher Dip. IT
5	SN31346	CS302	CS302	Next Gene...	13	Semester 2	50	SN31346	Dominic	Mariotte	Male	Dominic.Mariotte.20...	Higher Dip. IT

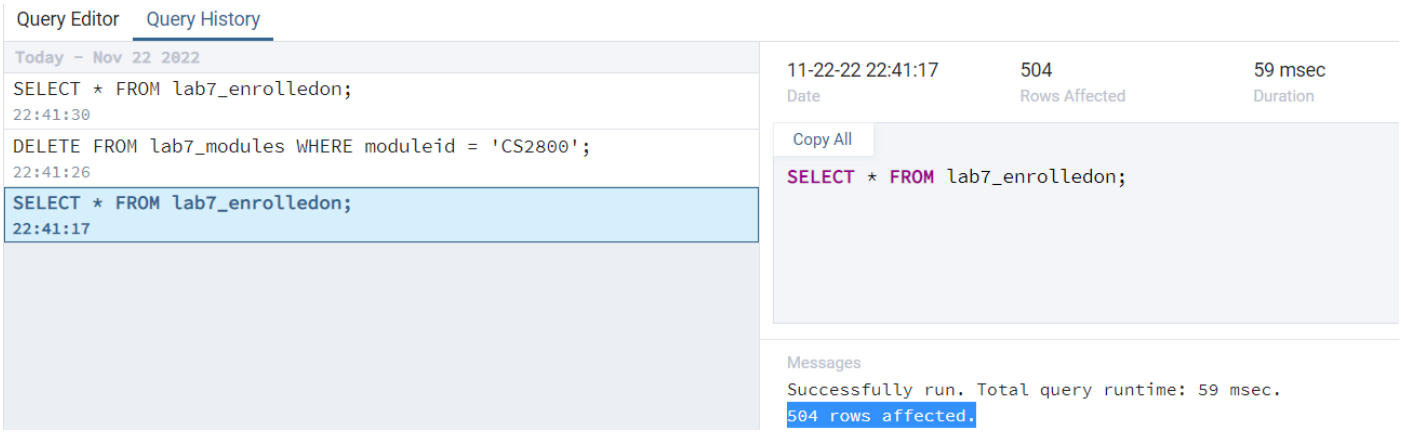
Lab 7 Question 11: Write a query which will delete the module with module code CS2800 from the database. You are asked to specify the TOTAL number of rows deleted in the database when this query runs successfully. It is important that you remember that there are CASCADING DELETES in operation to support REFERENTIAL

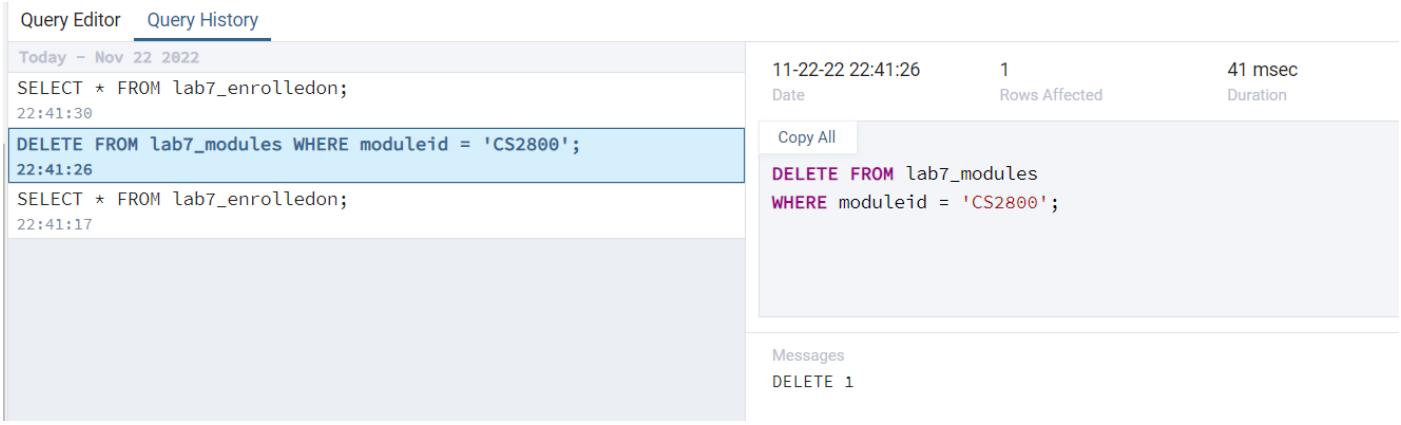
INTEGRITY in the database. You may need to write a number of select queries to find the total number of rows affected.

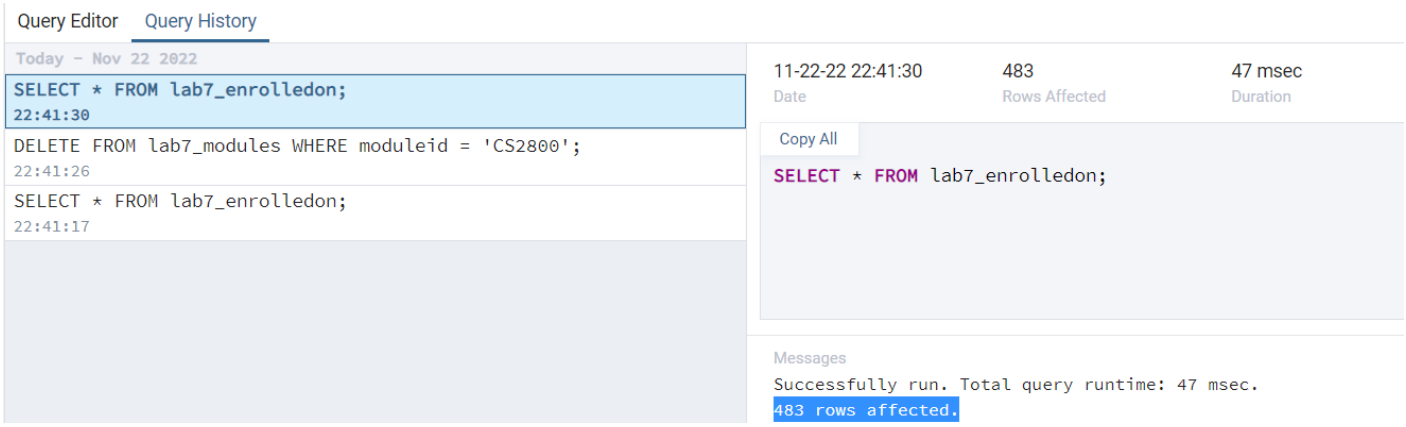
SQL Language:

1) *SELECT * FROM lab7_enrolledon;*
2) *DELETE FROM lab7_modules*
   WHERE moduleid = 'CS2800';
3) *SELECT * FROM lab7_enrolledon;*

Running result: *1 row in lab7_modules and 21 rows in lab_enrolledon affected*







Lab 7 Question 12: Write a query which will UPDATE the studendid of the student who currently has studentID SN09817 to a new studentID of SN0981775. You are asked to specify the TOTAL number of rows updated in the database when this query runs successfully. It is important that you remember that there are CASCADING

UPDATES in operation to support REFERENTIAL INTEGRITY in the database. You may need to write a number of select queries to find the total number of rows affected.

SQL Language: *(Run the following three respectively and successively)*

1) *SELECT * FROM lab7_enrolledon WHERE studentid = 'SN09817';*
2) *UPDATE lab7_students*
   SET studentid = 'SN0981775'
   WHERE studentid = 'SN09817';
3) *SELECT * FROM lab7_enrolledon WHERE studentid = 'SN09817';*

Running result: *1 row in lab7_students and 9 rows in lab_enrolledon affected*