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(1)

use CS422Project;

CREATE VIEW view as SELECT books.book_id,books.name FROM books

inner join book_loans on books.book_id=book_loans.book_id

inner join borrowers on book_loans.card_id=borrowers.card_id

where borrowers.bor_type='Faculty' and borrowers.department='Electric Department';

select * from view;

The screenshot displays the MySQL Workbench interface. The 'Query Editor' window contains the following SQL script:

```
1 use CS422Project;
2 CREATE VIEW view as SELECT books.book_id,books.name FROM books
3 inner join book_loans on books.book_id=book_loans.book_id
4 inner join borrowers on book_loans.card_id=borrowers.card_id
5 where borrowers.bor_type='Faculty' and borrowers.department='Electric Department';
6 select * from view;
```

The 'Output' window shows the execution results of the SQL script. The results are as follows:

Time	Action	Message	Duration / Fetch
97 22:53:31	insert INTO 'CS422Project'.borrowers ('card_id', 'name', 'gender', 'bor_type', 'department', '...	1 row(s) affected	0.031 sec
98 22:53:31	INSERT INTO 'CS422Project'.book_loans ('card_id', 'book_id', 'branch_id', 'due_date', 'ch...	1 row(s) affected	0.031 sec
99 22:53:31	INSERT INTO 'CS422Project'.books ('book_id', 'name', 'author', 'book_type', 'isbn', 'catalo...	1 row(s) affected	0.016 sec
100 22:54:06	use CS422Project	0 row(s) affected	0.000 sec
101 22:54:06	CREATE VIEW view as SELECT books.book_id,books.name FROM books inner join book_L...	0 row(s) affected	0.125 sec
102 22:54:06	select * from view LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec

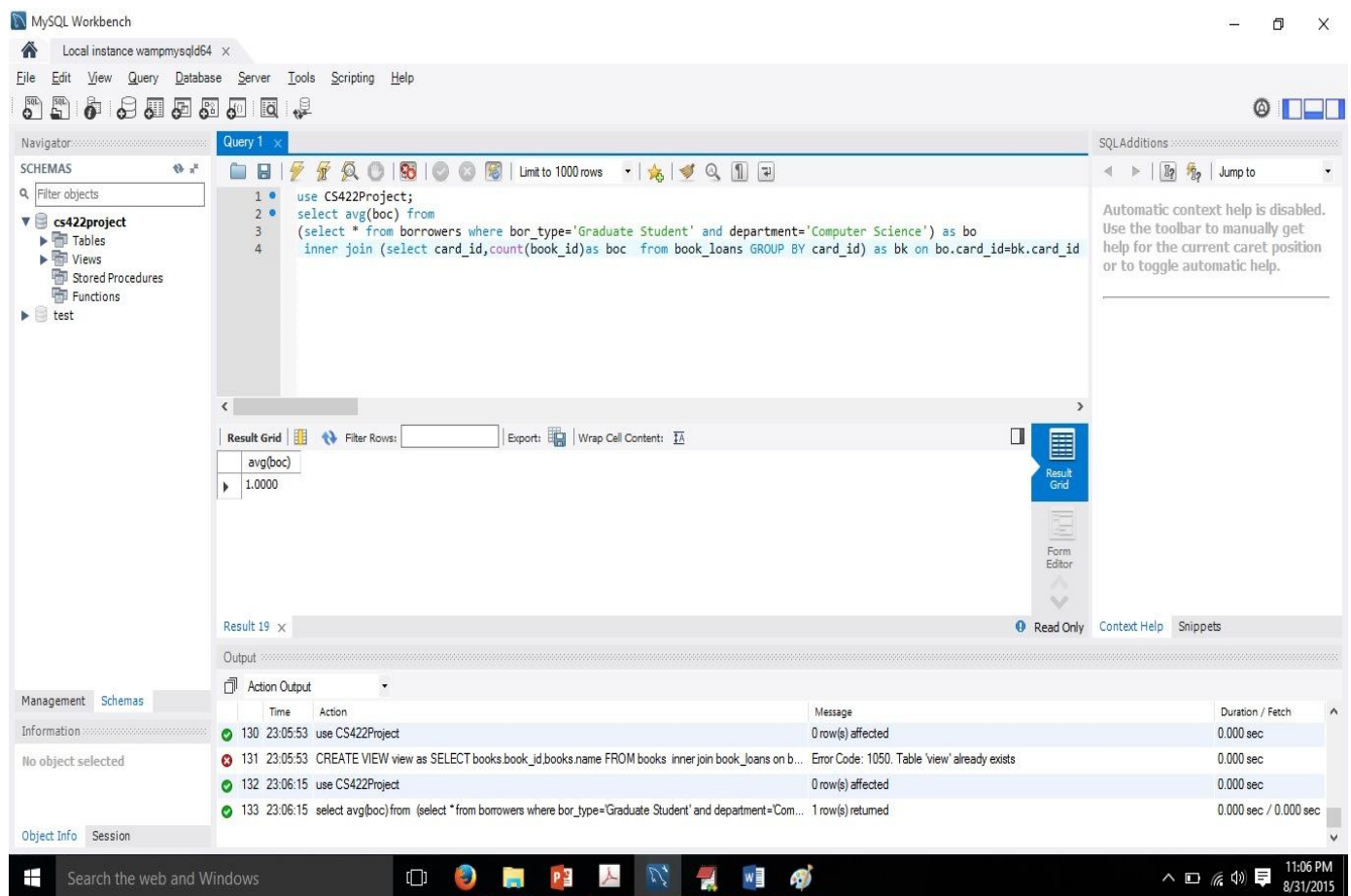
(2)

use CS422Project;

select avg(boc) from

(select * from borrowers where bor_type='Graduate Student' and department='Computer Science') as bo

inner join (select card_id,count(book_id)as boc from book_loans GROUP BY card_id) as bk on
bo.card_id=bk.card_id ;



(3)

use CS422Project;

SELECT b.name, el.Eng_count, fo.for_count, b.bor_type

FROM borrowers AS b INNER JOIN (SELECT book_Loans.card_id, COUNT(*) AS Eng_count

FROM book_Loans

WHERE (loan_type = 'English')

GROUP BY book_Loans.card_id) AS el on b.card_id=el.card_id

left JOIN

(SELECT Book_Loan_1.card_id, COUNT(*) AS for_count

FROM book_loans AS Book_Loan_1

WHERE (loan_type= 'foreign')

GROUP BY Book_Loan_1.card_id) as fo on el.card_id=fo.card_id

WHERE b.bor_type='vocational student'

GROUP BY b.name, el.Eng_count, fo.for_count, b.bor_type

HAVING (el.Eng_count > CASE WHEN fo.for_count IS NULL THEN 0 ELSE fo.for_count END);

The screenshot shows the MySQL Workbench interface. The 'Query Editor' window displays a SQL query that joins the 'borrowers' table with two subqueries. The first subquery, 'el', finds English books for a specific borrower. The second subquery, 'fo', finds foreign language books. The main query groups by borrower name, English count, foreign count, and borrower type, then uses a HAVING clause to filter for borrowers where the English count is greater than the foreign count (or 0 if foreign count is null).

The 'Result Grid' shows one result row for 'Kinjal' with an English count of 4 and a foreign count of NULL, categorized as a 'Vocational Student'.

The 'Action Output' window at the bottom shows the execution log, including the use of the 'CS422Project' database and the execution of the SELECT query, which returned 1 row.

name	Eng_count	for_count	bor_type
Kinjal	4	NULL	Vocational Student

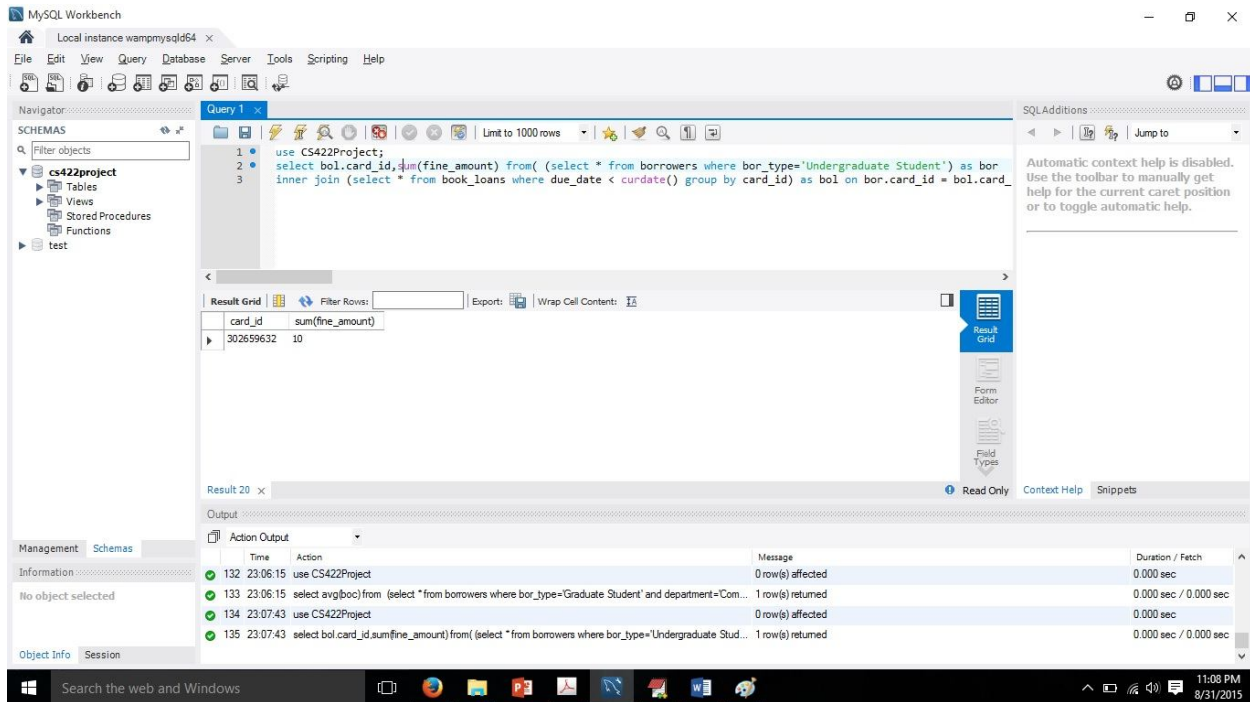
Time	Action	Message	Duration / Fetch
136 23:08:53	use CS422Project	0 row(s) affected	0.000 sec
137 23:08:53	select name from books as b1 where branch_id=(select branch_id from lib_branches where branch_na...	2 row(s) returned	0.000 sec / 0.000 sec
138 23:15:18	use CS422Project	0 row(s) affected	0.000 sec
139 23:15:18	SELECT b.name, el.Eng_count, fo.for_count, b.bor_type FROM borrowers AS b INNER JOIN ...	1 row(s) returned	0.000 sec / 0.000 sec

(4)

use CS422Project;

```
select bol.card_id,sum(fine_amount) from( (select * from borrowers where bor_type='Undergraduate Student') as bor
```

```
inner join (select * from book_loans where due_date < curdate() group by card_id) as bol on bor.card_id = bol.card_id);
```



(5)

use CS422Project;

```
UPDATE book_loans as bl
```

```
SET due_date=STR_TO_DATE( '4/8/2015', '%m/%d/%Y' )
```

```
WHERE book_id= (select book_id as b from books as b
```

```
where bl.card_id=101202505 and b.book_id=bl.book_id and b.name='Convex Optimization') ;
```

```
select * from book_loans;
```

(6)

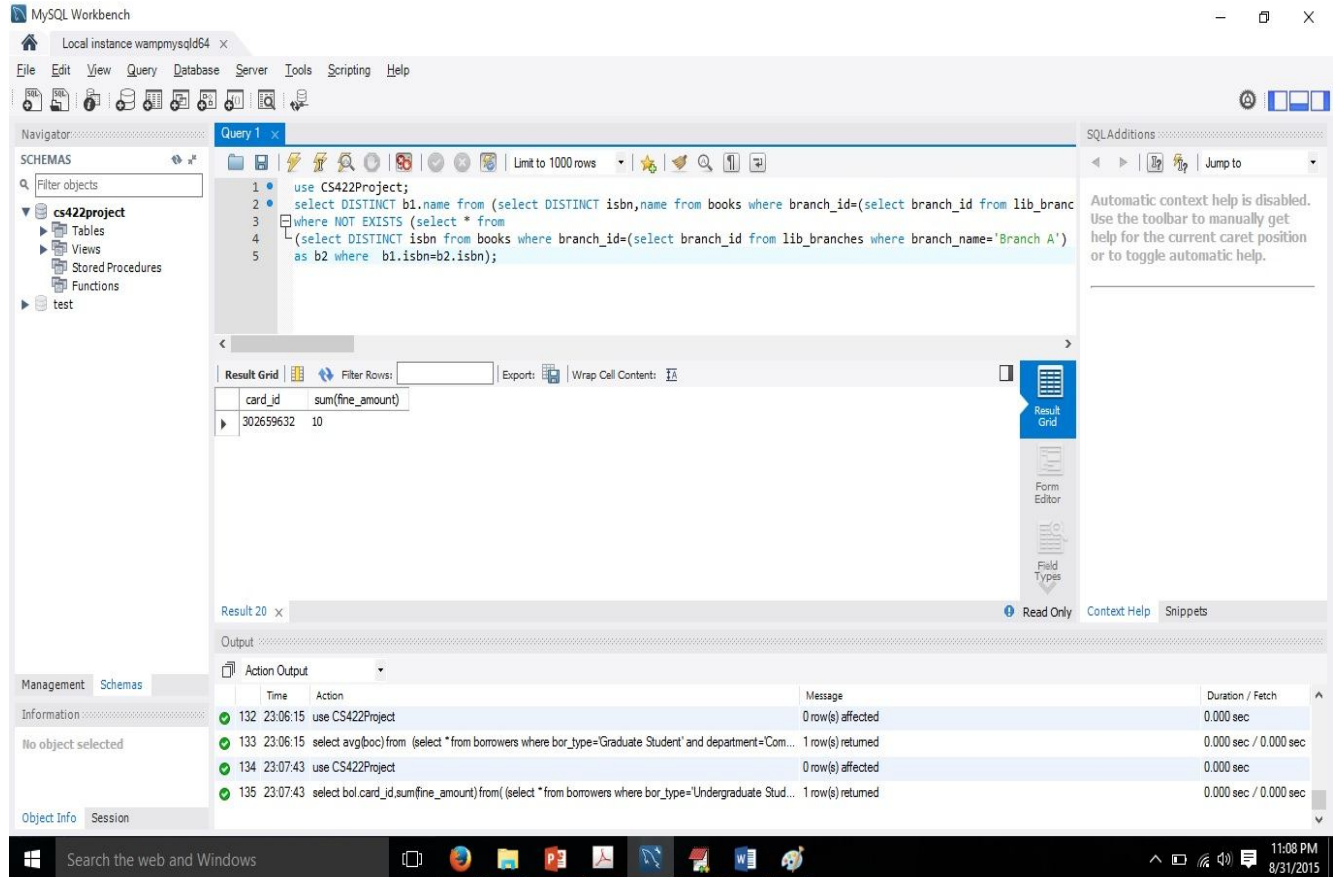
use CS422Project;

```
select DISTINCT b1.name from (select DISTINCT isbn,name from books where branch_id=(select branch_id from lib_branches where branch_name='Branch A')) as b1
```

```
where NOT EXISTS (select * from
```

(select DISTINCT isbn from books where branch_id=(select branch_id from lib_branches where branch_name='Branch A') and NOT EXISTS (select * from book_loans where books.book_id=book_loans.book_id))

as b2 where b1.isbn=b2.isbn);



(7)

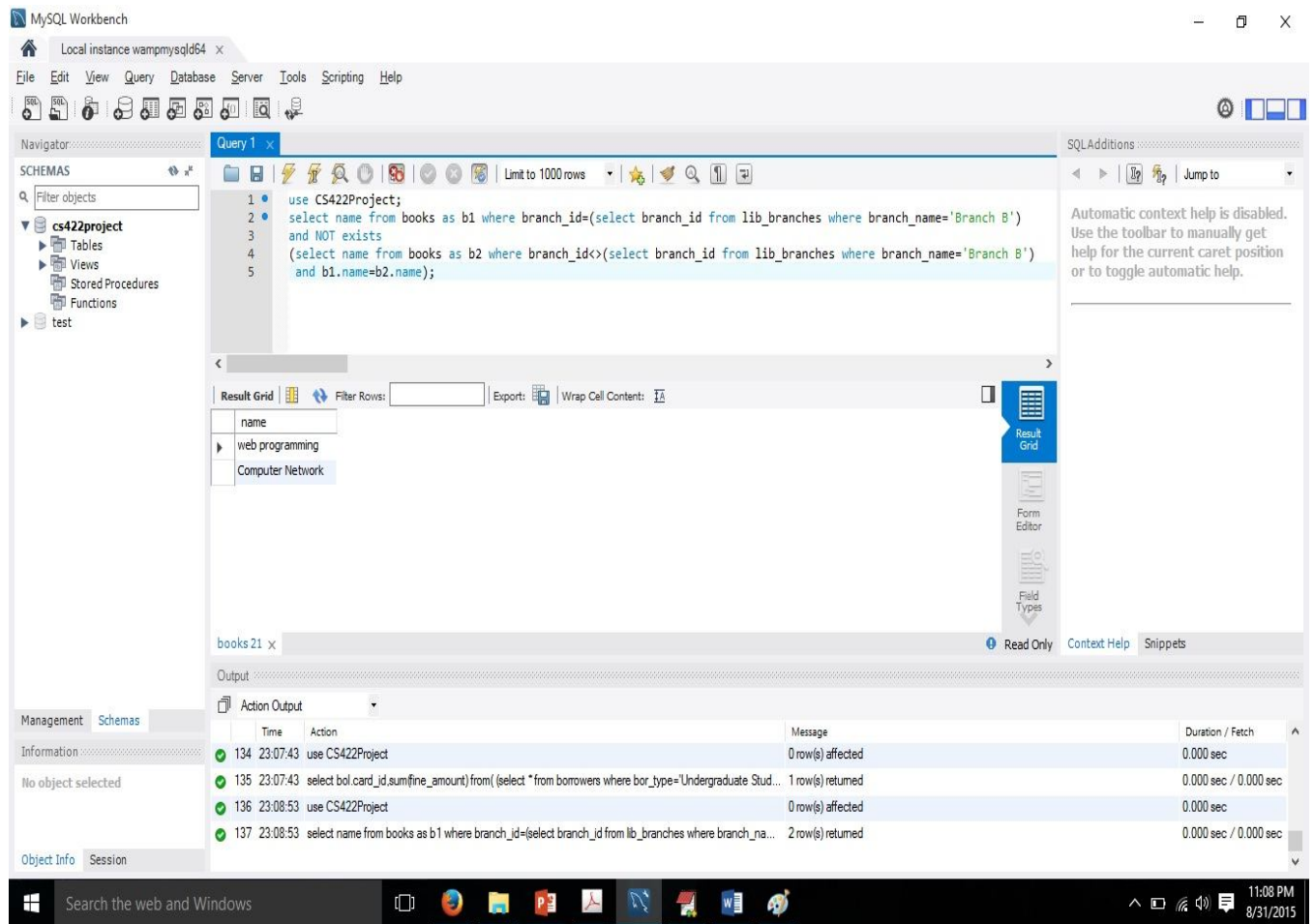
use CS422Project;

select name from books as b1 where branch_id=(select branch_id from lib_branches where branch_name='Branch B')

and NOT exists

(select name from books as b2 where branch_id<>(select branch_id from lib_branches where branch_name='Branch B')

and b1.name=b2.name);

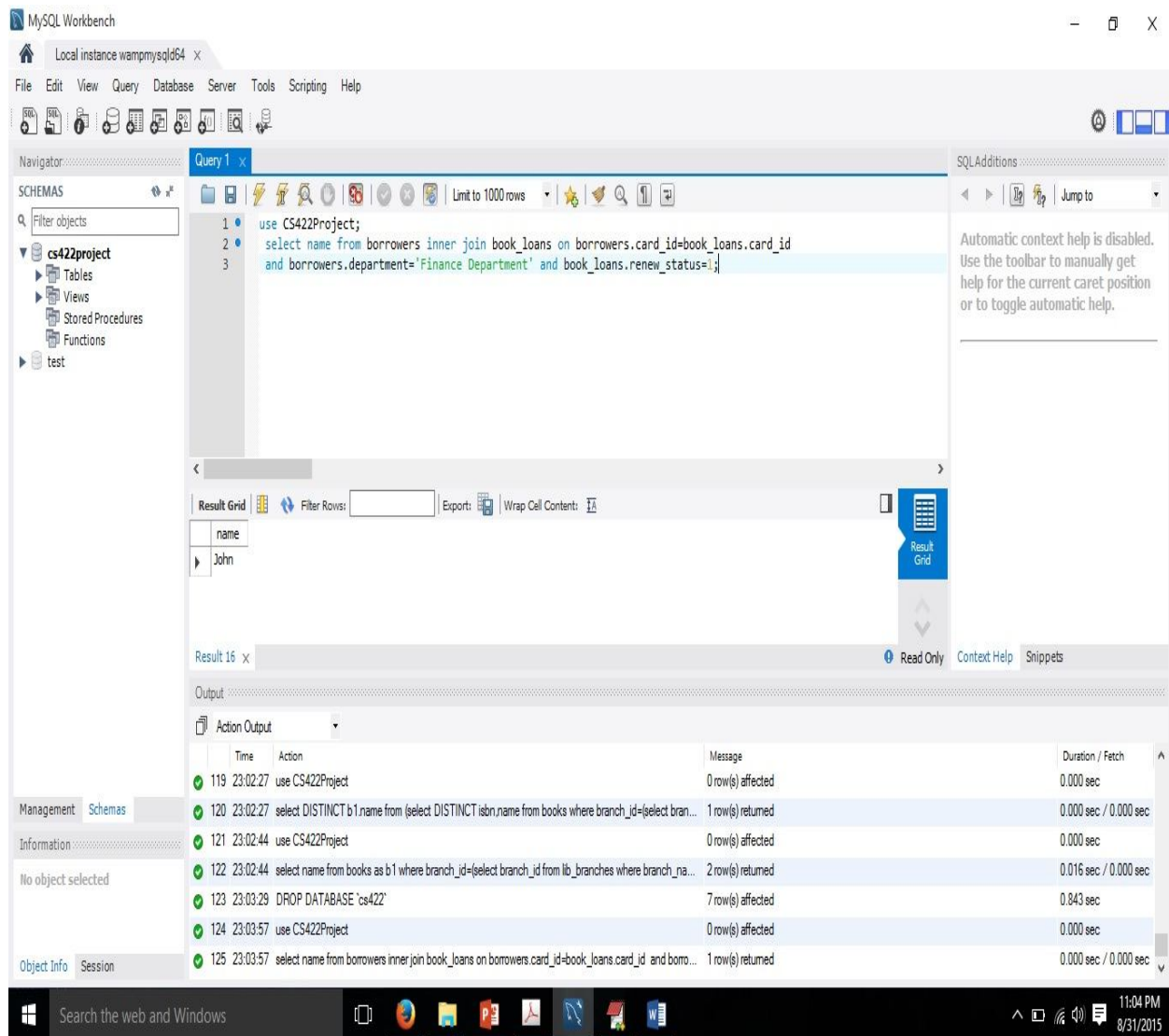


(8)

use CS422Project;

select name from borrowers inner join book_loans on borrowers.card_id=book_loans.card_id

and borrowers.department='Finance Department' and book_loans.renew_status=1;



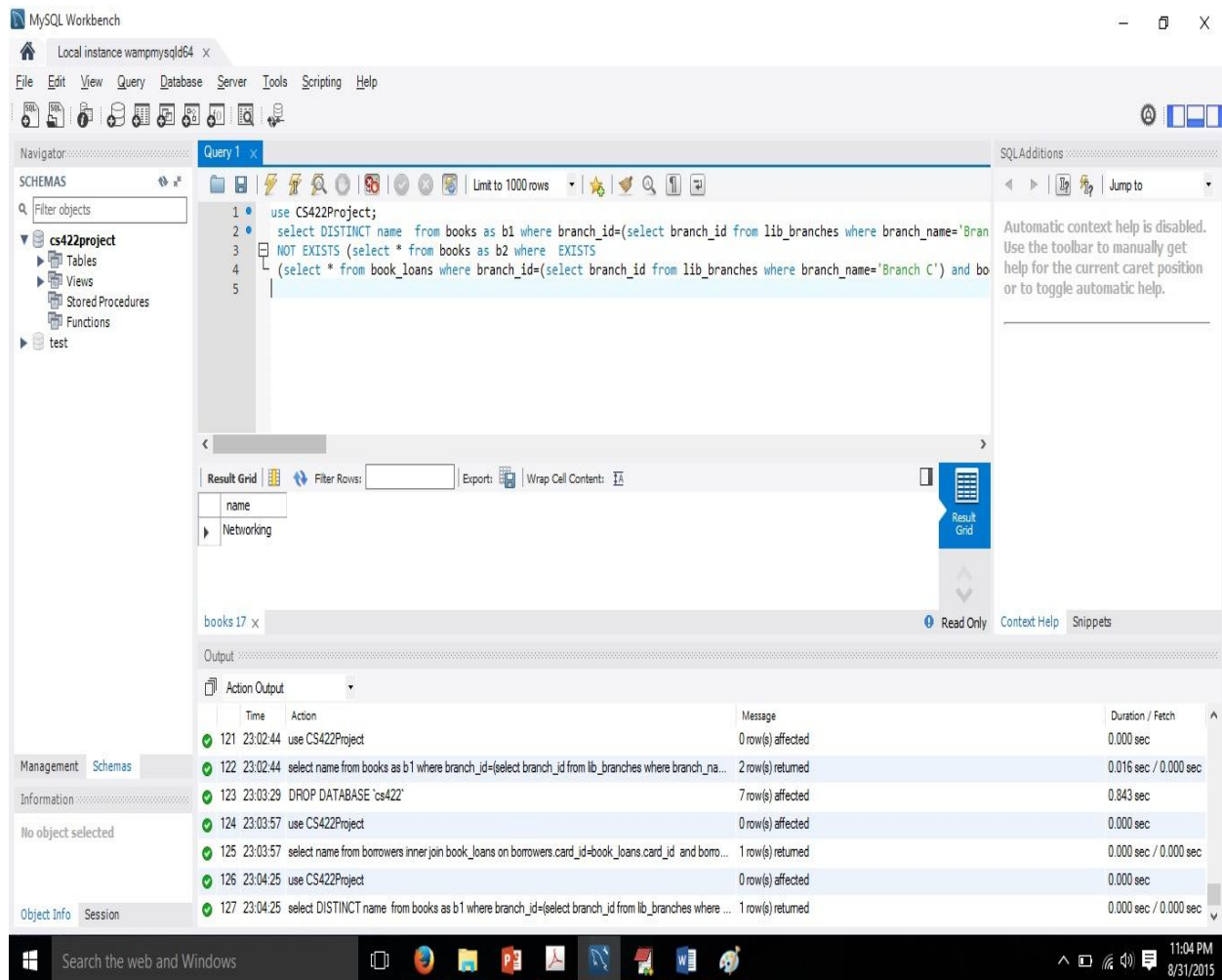
(9)

use CS422Project;

select DISTINCT name from books as b1 where branch_id=(select branch_id from lib_branches where branch_name='Branch C') and Is_new=1 and

NOT EXISTS (select * from books as b2 where EXISTS

(select * from book_loans where branch_id=(select branch_id from lib_branches where branch_name='Branch C') and book_loans.book_id=b2.book_id) and b2.isbn=b1.isbn) ;



(10)

use CS422Project;

select lb.branch_name,fl.Maximum_book ,fl.pu from lib_branches as lb inner join

(select b1.cp as branchID,b1.max_br as Maximum_book,b2.publishpress as pu from (select copo.branch_id as cp,max(copo.co) as max_br from

(select publishpress ,branch_id ,count(*) as co from books group by publishpress ,branch_id)

as copo group by copo.branch_id) as b1

inner join

(

select publishpress ,branch_id ,count(*) as co from books group by publishpress ,branch_id) as b2

on

b1.max_br=b2.co and b1.cp=b2.branch_id) as f1 on f1.branchID=lb.branch_id;

MySQL Workbench

Local instance wampmysqld64

File Edit View Query Database Server Tools Scripting Help

Navigator

Query 1

```
1 use CS422Project;
2 select lb.branch_name,f1.Maximum_book ,f1.pu from lib_branches as lb inner join
3 (select b1.cp as branchID,b1.max_br as Maximum_book,b2.publishpress as pu from (select copo.branch_id as cp,max(co
4 (select publishpress ,branch_id ,count(*) as co from books group by publishpress ,branch_id)
5 as copo group by copo.branch_id) as b1
6 inner join
7 (
8 select publishpress ,branch_id ,count(*) as co from books group by publishpress ,branch_id) as b2
9 on
10 b1.max_br=b2.co and b1.cp=b2.branch_id) as f1 on f1.branchID=lb.branch_id;
```

Result Grid

branch_name	Maximum_book	pu
Branch A	9	Microsoft
Branch B	6	Meboo
Branch B	6	Microsoft
Branch C	9	Technical

Result 18

Output

Action Output

Time	Action	Message	Duration / Fetch
123 23:03:29	DROP DATABASE 'cs422'	7 row(s) affected	0.843 sec
124 23:03:57	use CS422Project	0 row(s) affected	0.000 sec
125 23:03:57	select name from borrowers inner join book_loans on borrowers.card_id=book_loans.card_id and boro...	1 row(s) returned	0.000 sec / 0.000 sec
126 23:04:25	use CS422Project	0 row(s) affected	0.000 sec
127 23:04:25	select DISTINCT name from books as b1 where branch_id=(select branch_id from lib_branches where ...	1 row(s) returned	0.000 sec / 0.000 sec

Search the web and Windows

11:05 PM 8/31/2015