Database queries

Contents

Question 1

Find the name and address of any individual customer using customer id.

Query

Run SQL query/queries on database u1761249:

```
1  SELECT  DISTINCT fss_Person.personname AS Name,
2      fss_Address.addstreet AS Street,
3      fss_Address.addcity AS City,
4      fss_Address.addpostcode AS 'Post Code'
5  FROM fss_CustomerAddress
6  INNER JOIN fss_Customer ON fss_Customer.custid = fss_CustomerAddress.custid
7  INNER JOIN fss_Person ON fss_Person.personid = fss_Customer.custid
8  INNER JOIN fss_Address ON fss_CustomerAddress.addid = fss_Address.addid
9  WHERE fss_Customer.custid = 40
```

Data

Server: localhost » Database: u1761249

Structure | SQL | Search | Query

School of Computing and Engineering

Show query box

Showing rows 0 - 0 (1 total, Query took 0.0006 seconds.)

```
SELECT DISTINCT fss_Person.personname AS Name, fss_Address.add
fss_Customer.custid = fss_Person.personid INNER JOIN fss_Addre
```

Show all | Number of rows: 25 | Filter rows:

+ Options

Name	Street	City	Post Code
Edan Rosario	4 Utley Street.	Burnley	BB17 4RT

Question 2

Find the name and address of any individual employee using employee name.

Query

Run SQL query/queries on database u1761249:

```
SELECT DISTINCT fss_Person.personname AS Name,
    fss_Address.addstreet AS Street,
    fss_Address.addcity AS City,
    fss_Address.addpostcode AS 'Post Code'
FROM fss_Address
INNER JOIN fss_Employee ON fss_Employee.addid = fss_Address.addid
INNER JOIN fss_Person ON fss_Employee.empid = fss_Person.personid
WHERE fss_Person.personname = 'Carl BACHS'
```

Data

Show query box

Showing rows 0 - 0 (1 total, Query took 0.0007 seconds.)

```
SELECT DISTINCT fss_Person.personname AS Name, fss_Address.a
fss_Person.personid = fss_Employee.empid WHERE fss_Employee.
```

Show all | Number of rows: 25 Filter row

+ Options

Name	Street	City	Post Code
Carl BACHS	69 Firth Street	Huddersfield	HD1 3DH

Question 3

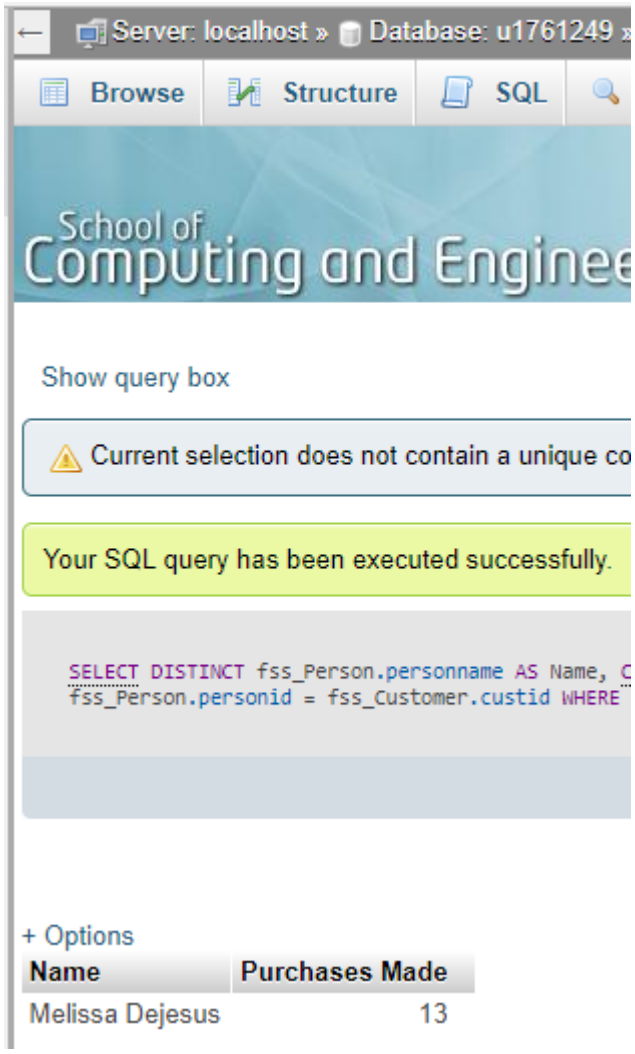
Find the name and number of payments made by any individual customer.

Query

Run SQL query/queries on table u1761249.fss_Person:

```
SELECT DISTINCT fss_Person.personname AS Name, COUNT(*) As 'Purchases Made'
FROM fss_OnlinePayment
INNER JOIN fss_Payment ON fss_Payment.payid = fss_OnlinePayment.payid
INNER JOIN fss_Customer on fss_Customer.custid = fss_OnlinePayment.custid
INNER JOIN fss_Person on fss_Person.personid = fss_Customer.custid
WHERE fss_OnlinePayment.custid = 35
```

Data



Name	Purchases Made
Melissa Dejesus	13

Question 4

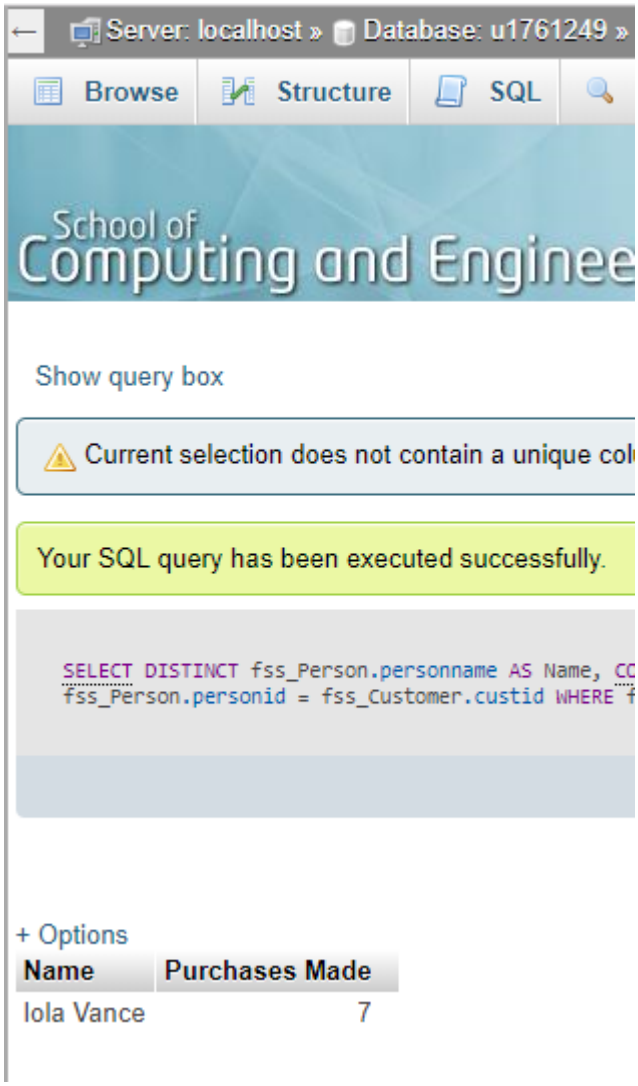
Find the number of films purchased by Iola Vance.

Query

Run SQL query/queries on table u1761249.fss_Person:

```
SELECT DISTINCT fss_Person.personname AS Name, COUNT(*) As 'Purchases Made'
FROM fss_OnlinePayment
INNER JOIN fss_Payment ON fss_Payment.payid = fss_OnlinePayment.payid
INNER JOIN fss_Customer on fss_Customer.custid = fss_OnlinePayment.custid
INNER JOIN fss_Person on fss_Person.personid = fss_Customer.custid
WHERE fss_Person.personname = 'Iola Vance'
```

Data



Question 5

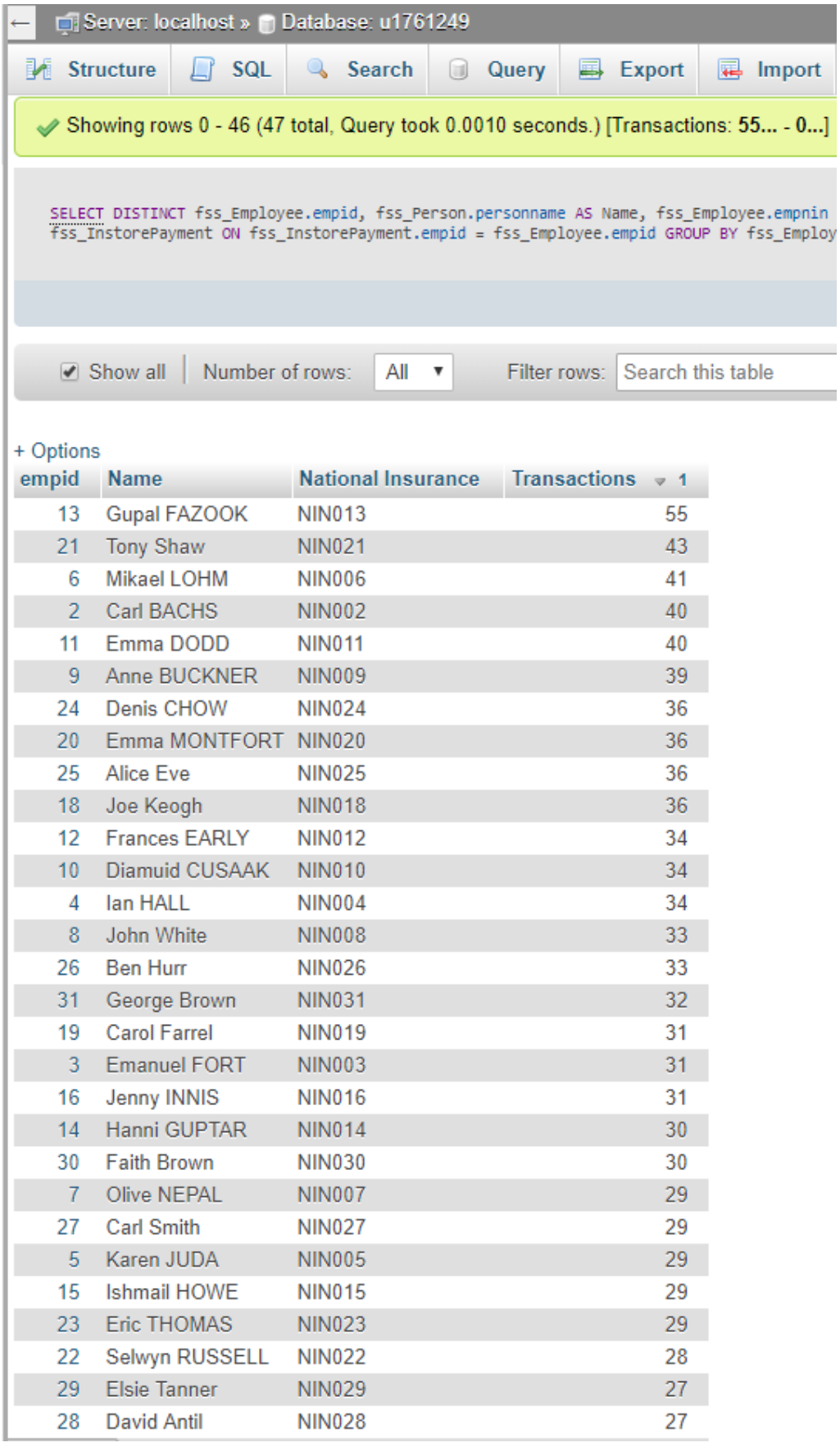
Write a query to display the total number of transactions attributed to shop based employees, giving NIN number and employee name. Order by the number of transactions from high to low, including employees with 0 transactions.

Query

Run SQL query/queries on database u1761249:

```
SELECT  DISTINCT fss_Employee.empid,
    fss_Person.personname AS Name,
    fss_Employee.empnin AS 'National Insurance',
    COUNT(fss_InstorePayment.empid) AS Transactions
FROM fss_Employee
INNER JOIN fss_Person ON fss_Person.personid = fss_Employee.empid
LEFT OUTER JOIN fss_InstorePayment ON fss_InstorePayment.empid = fss_Employee.empid
GROUP BY fss_Employee.empid
ORDER BY Transactions DESC
```

Data



empid	Name	National Insurance	Transactions 1
13	Gupal FAZOOK	NIN013	55
21	Tony Shaw	NIN021	43
6	Mikael LOHM	NIN006	41
2	Carl BACHS	NIN002	40
11	Emma DODD	NIN011	40
9	Anne BUCKNER	NIN009	39
24	Denis CHOW	NIN024	36
20	Emma MONTFORT	NIN020	36
25	Alice Eve	NIN025	36
18	Joe Keogh	NIN018	36
12	Frances EARLY	NIN012	34
10	Diamuid CUSAAK	NIN010	34
4	Ian HALL	NIN004	34
8	John White	NIN008	33
26	Ben Hurr	NIN026	33
31	George Brown	NIN031	32
19	Carol Farrel	NIN019	31
3	Emanuel FORT	NIN003	31
16	Jenny INNIS	NIN016	31
14	Hanni GUPTAR	NIN014	30
30	Faith Brown	NIN030	30
7	Olive NEPAL	NIN007	29
27	Carl Smith	NIN027	29
5	Karen JUDA	NIN005	29
15	Ishmail HOWE	NIN015	29
23	Eric THOMAS	NIN023	29
22	Selwyn RUSSELL	NIN022	28
29	Elsie Tanner	NIN029	27
28	David Antil	NIN028	27

empid	Name	National Insurance	Transactions 1
28	David Antil	NIN028	27
17	Keith JACKMAN	NIN017	25
141	Aalena Flowers	NIN041	0
146	Smelia Himenez	NIN046	0
34	Dingbat Doodle	NIN034	0
139	Thorny Harrison	NIN039	0
144	Bendy Hosepipe	NIN044	0
32	Dingbert Frown	NIN032	0
137	Tilda Cleveland	NIN037	0
142	Violent Rober	NIN042	0
147	Anne Other	NIN047	0
135	Hasimir Heynolds	NIN035	0
140	Elma Fudd	NIN040	0
145	Wylie Cayote	NIN045	0
1	John RUSSELL	NIN001	0
33	Nancy Crown	NIN033	0
138	Ottoman Ruff	NIN038	0
143	Natts Water	NIN043	0
136	Wael Wendez	NIN036	0

*NOTE – David ANTIL (emp26) only appears once within the results. I have done the screenshot like this to show where the first image ends and the second begins.

Question 6

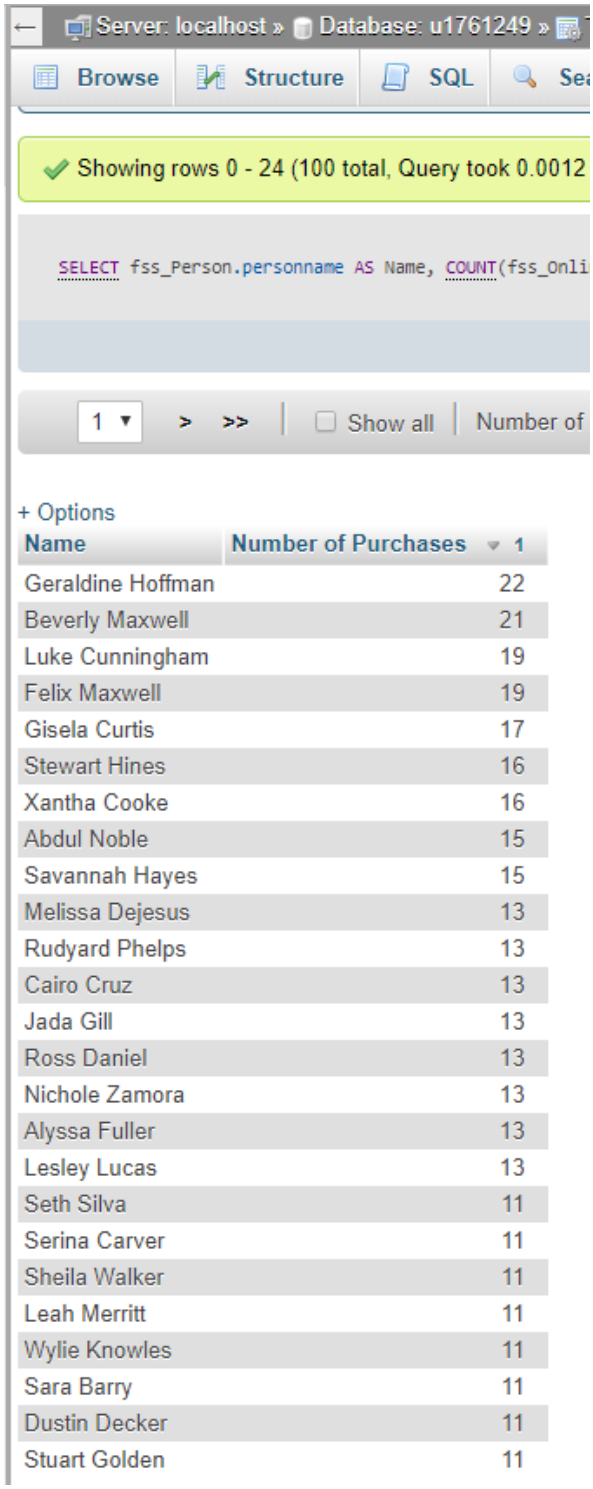
Find the name and number of payments made by all customers. Order the list from high to low.

Query

Run SQL query/queries on table u1761249.fss_Person:

```
SELECT  fss_Person.personname AS Name, COUNT(fss_OnlinePayment.custid) AS 'Number of Purchases'
FROM fss_OnlinePayment
INNER JOIN fss_Person ON fss_Person.personid = fss_OnlinePayment.custid
GROUP BY fss_OnlinePayment.custid
ORDER BY `Number of Purchases`  DESC
```

Data



Name	Number of Purchases ▾ 1
Geraldine Hoffman	22
Beverly Maxwell	21
Luke Cunningham	19
Felix Maxwell	19
Gisela Curtis	17
Stewart Hines	16
Xantha Cooke	16
Abdul Noble	15
Savannah Hayes	15
Melissa Dejesus	13
Rudyard Phelps	13
Cairo Cruz	13
Jada Gill	13
Ross Daniel	13
Nichole Zamora	13
Alyssa Fuller	13
Lesley Lucas	13
Seth Silva	11
Serina Carver	11
Sheila Walker	11
Leah Merritt	11
Wylie Knowles	11
Sara Barry	11
Dustin Decker	11
Stuart Golden	11

Question 7

Find the title of all films purchased by Iola Vance and the payment number used for each purchase.

Query

Run SQL query/queries on database u1761249:

```
SELECT  fss_Film.filmtitle AS Title, fss_OnlinePayment.payid AS 'Payment ID'
FROM fss_Payment
INNER JOIN fss_OnlinePayment ON fss_OnlinePayment.payid = fss_Payment.payid
INNER JOIN fss_Person ON fss_Person.personid = fss_OnlinePayment.custid
INNER JOIN fss_FilmPurchase ON fss_FilmPurchase.fpid = fss_Payment.payid
INNER JOIN fss_Film ON fss_Film.filmid = fss_FilmPurchase.filmid
WHERE fss_Person.personname = 'Iola Vance'
```

Data

Server: localhost » Database: u1761249

Structure | SQL | Search | Query

Show query box

Showing rows 0 - 6 (7 total, Query took 0.0006 seconds.)

```
SELECT fss_Film.filmtitle AS Title, fss_OnlinePayment.payid
fss_FilmPurchase.fpid = fss_Payment.payid INNER JOIN fss_Fil
```

Show all | Number of rows: 25 | Filter row

Sort by key: None

+ Options

Title	Payment ID
The Pursuit of Happyness	106
Octopussy	886
Octopussy	986
Troy	1090
Troy	1190
Harry Potter and the Order of the Phoenix	1494
Star Wars: Episode I - The Phantom Menace	1594

Question 8

Write a function to predict the expected sales for the company in December 2018. The function should be written in such a way that it can be used to predict expected sales for any month.

Query

Run SQL query/queries on database u1761249:

```
DELIMITER //

CREATE FUNCTION PredictData(shop VARCHAR(20), month INT, year INT)
RETURNS DECIMAL(12,2)
BEGIN

    DECLARE target DATE ;
    DECLARE stringTarget VARCHAR(10) ;
    DECLARE last1, last2, last3 DATE ;
    DECLARE value1, value2, value3 DECIMAL(12,2) ;
    DECLARE prediction DECIMAL(12,2) ;
    DECLARE countValues INT unsigned ;

    SET stringTarget = CONCAT(year , '/', month, '/' , '01') ;
    SET target = CAST( stringTarget AS DATE) ;
    SET countValues = 3 ;

    SET last1 = DATE_SUB(target, INTERVAL 1 YEAR) ;
    SET last2 = DATE_SUB(target, INTERVAL 2 YEAR) ;
    SET last3 = DATE_SUB(target, INTERVAL 3 YEAR) ;

    SET value1 = (SELECT MonthTotal(shop, last1)) ;
    SET value2 = (SELECT MonthTotal(shop, last2)) ;
    SET value3 = (SELECT MonthTotal(shop, last3)) ;

    IF value1 IS NULL THEN SET value1 = 0 ;
        SET countValues = countValues - 1 ;
    END IF ;
    IF value2 IS NULL THEN SET value2 = 0 ;
        SET countValues = countValues - 1 ;
    END IF ;
    IF value3 IS NULL THEN SET value3 = 0 ;
        SET countValues = countValues - 1 ;
    END IF ;

    SET prediction = (value1 + value2 + value3) / countValues ;

    RETURN prediction ;

END //

DELIMITER ;
```

This is the main function called by the user who invoked the function. This function returns the predicted profit for a shop based on sales of that month over the last 3 years. This function calls a second function MonthTotal as documented below.

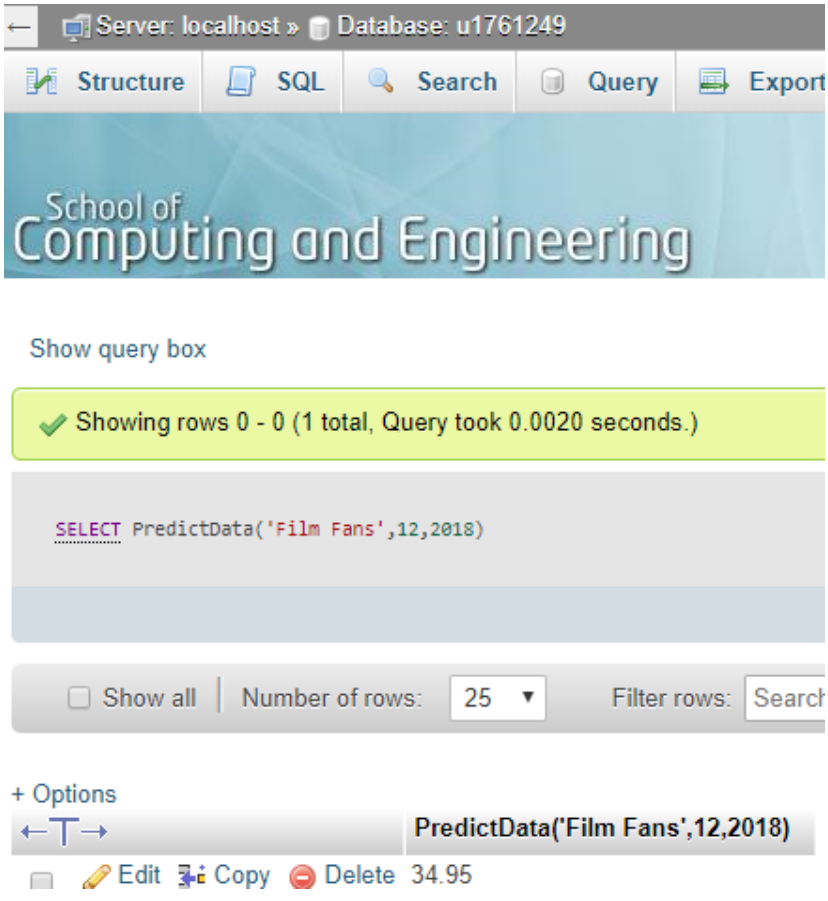
*NOTE – the use of semi-colon is required for the function to execute but throw errors on screen due to the change in delimiter altering the meaning of the symbol. This doesn't adversely affect the function and when invoked doesn't show any errors.

Run SQL query/queries on database u1761249:

```
DROP FUNCTION MonthTotal;
DELIMITER //
CREATE FUNCTION MonthTotal(shop VARCHAR(20), target DATE)
RETURNS DECIMAL(12,2)
BEGIN

    SET @result := (

        SELECT SUM(amount) AS profit
        FROM fss_Payment
            WHERE YEAR(paydate) = YEAR(target) AND
                 MONTH(paydate) = MONTH(target) AND
                fss_Payment.shopid =(
                SELECT shopid
                FROM fss_Shop
                WHERE fss_Shop.shopname = shop
            )
        ) ;

    RETURN @result ;

END //
DELIMITER ;
```

This is the second function which returns the total profit from a shop within a specific month.

Data



This is the estimated profit from Film Fans for December 2018.

Question 9

Create a view table of sales figures for each individual shop: display the shop by name, The manager of the shop by name, The top salesperson in that shop by name, The value of sales for that person

Query

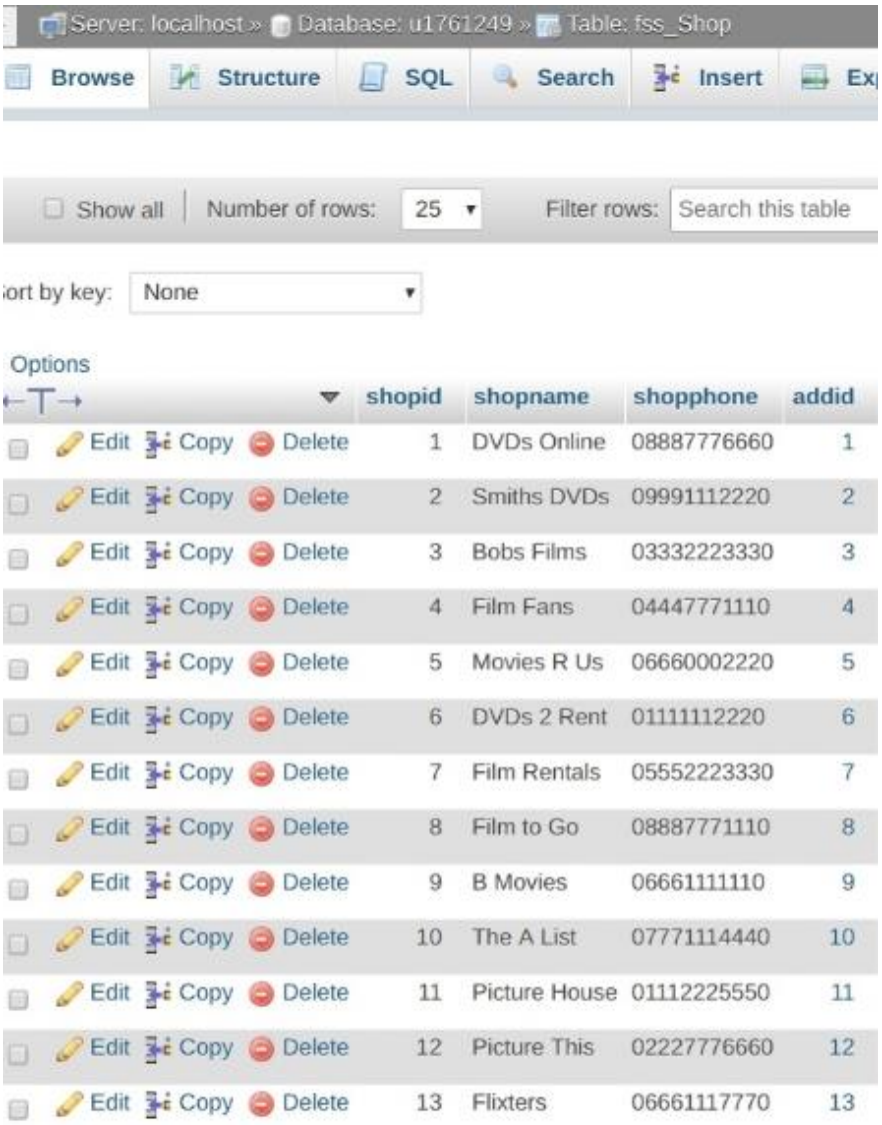
Run SQL query/queries on database u1761249:

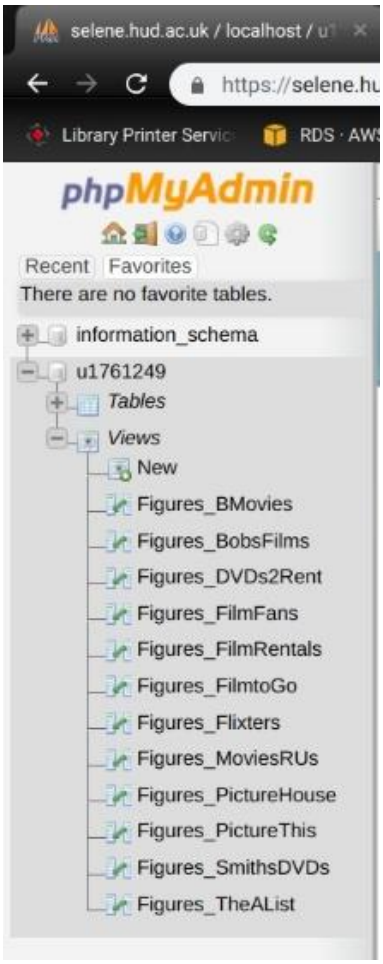
```
CREATE VIEW fss_FilmFans AS

SELECT Shop, Manager, TopSalesPerson, TopSalesPersonProfit

FROM (
    SELECT
        fss_Shop.shopname AS Shop,
        fss_Person.personname AS Manager,
        Person AS TopSalesPerson,
        Profit AS TopSalesPersonProfit
    FROM fss_Employee
    JOIN fss_Person ON fss_Person.personid = fss_Employee.empid
    JOIN fss_Manager ON fss_Manager.empid = fss_Employee.empid
    JOIN fss_Shop ON fss_Employee.shopid = fss_Shop.shopid
    JOIN (
        SELECT
            fss_Shop.shopname AS ShopName,
            fss_Person.personname AS Person,
            SUM(fss_Payment.amount) AS Profit
        FROM fss_Person, fss_Payment, fss_InstorePayment, fss_Shop
        WHERE fss_Payment.payid = fss_InstorePayment.payid
        AND fss_Shop.shopid = fss_Payment.shopid
        AND fss_Person.personid = fss_InstorePayment.empid
        AND fss_Payment.shopid = 4
        GROUP BY fss_InstorePayment.empid
        ORDER BY Profit DESC
        LIMIT 1
    ) AS fss_TopSalesPerson ON fss_Shop.shopname = fss_TopSalesPerson.ShopName
    WHERE fss_Shop.shopname = fss_TopSalesPerson.ShopName
) AS fss_ShopData
```

*Note – This is the query used to create the fss_FilmFans view. The same query was used for the other views except that the view name and WHERE (shopname) are changed to represent the correct shop.

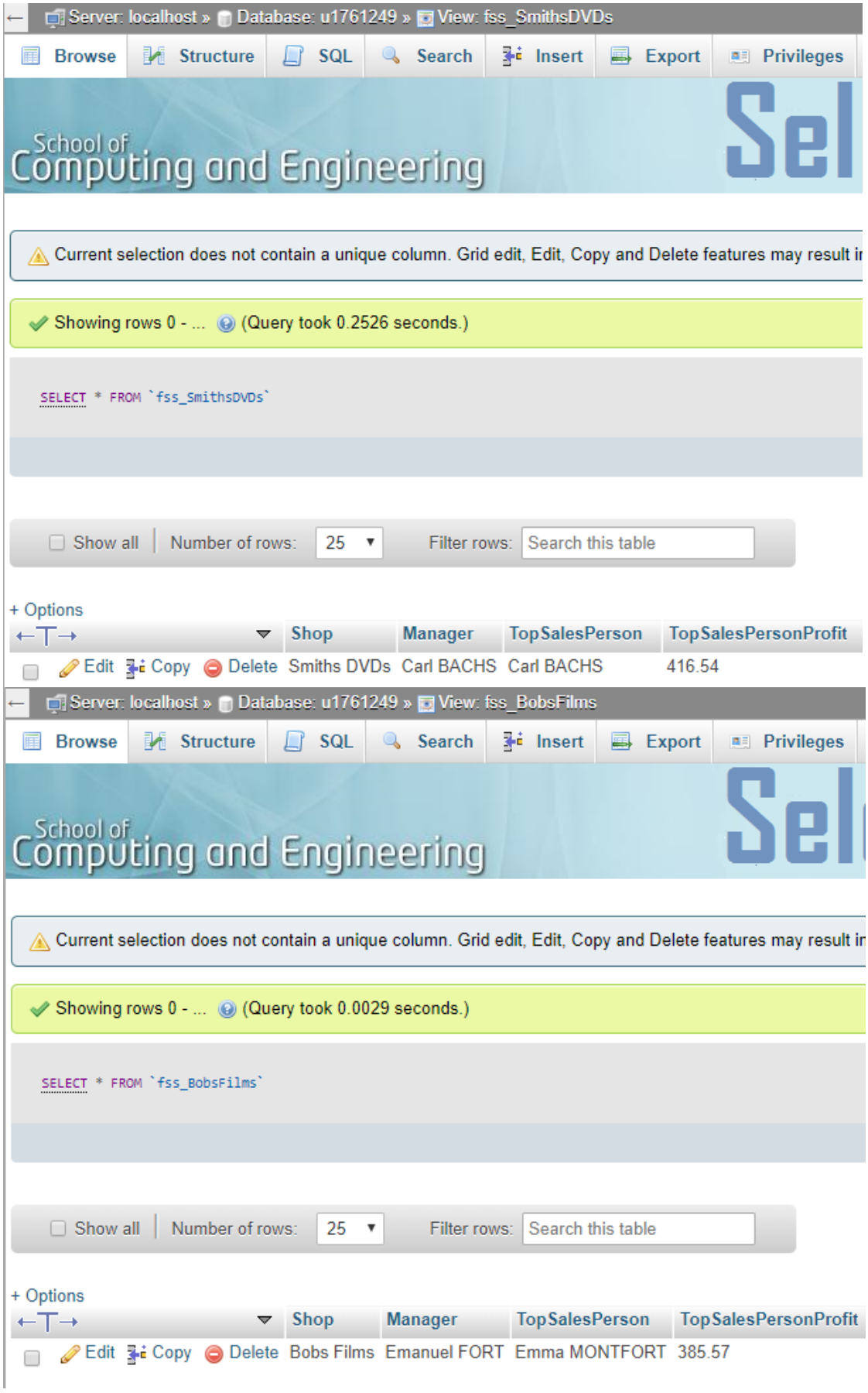
Data

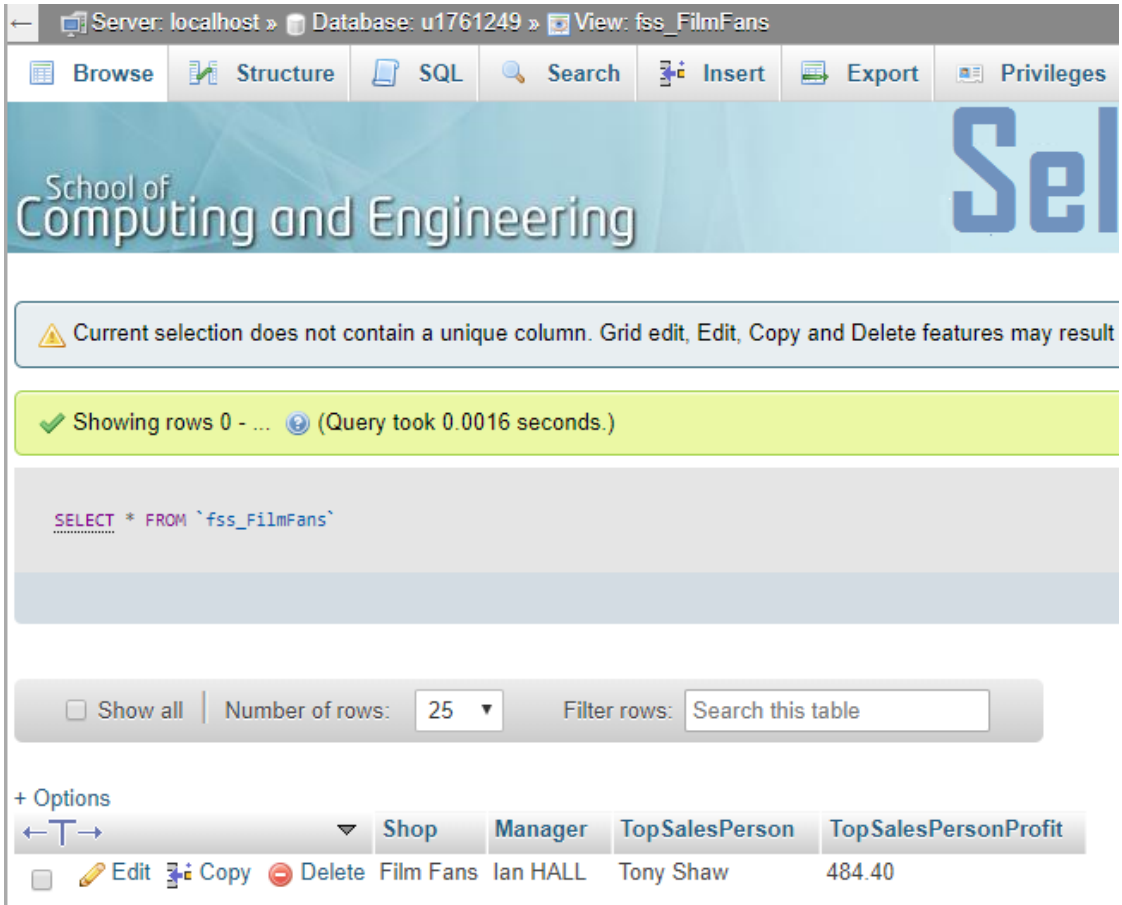
This is the order that the shops appear in the fss_Shop table (left). I will show the Views in the same order. (Minus DVDs Online as there is no record of the Top Sales Person).

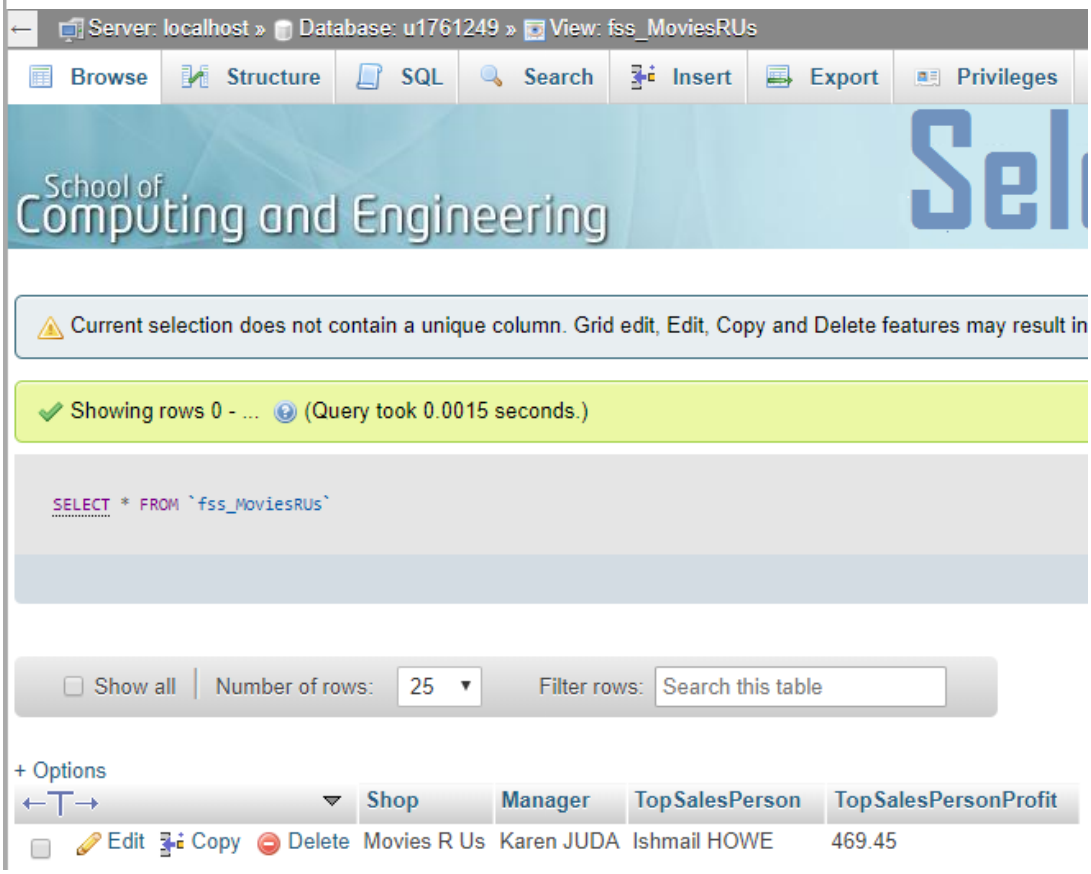


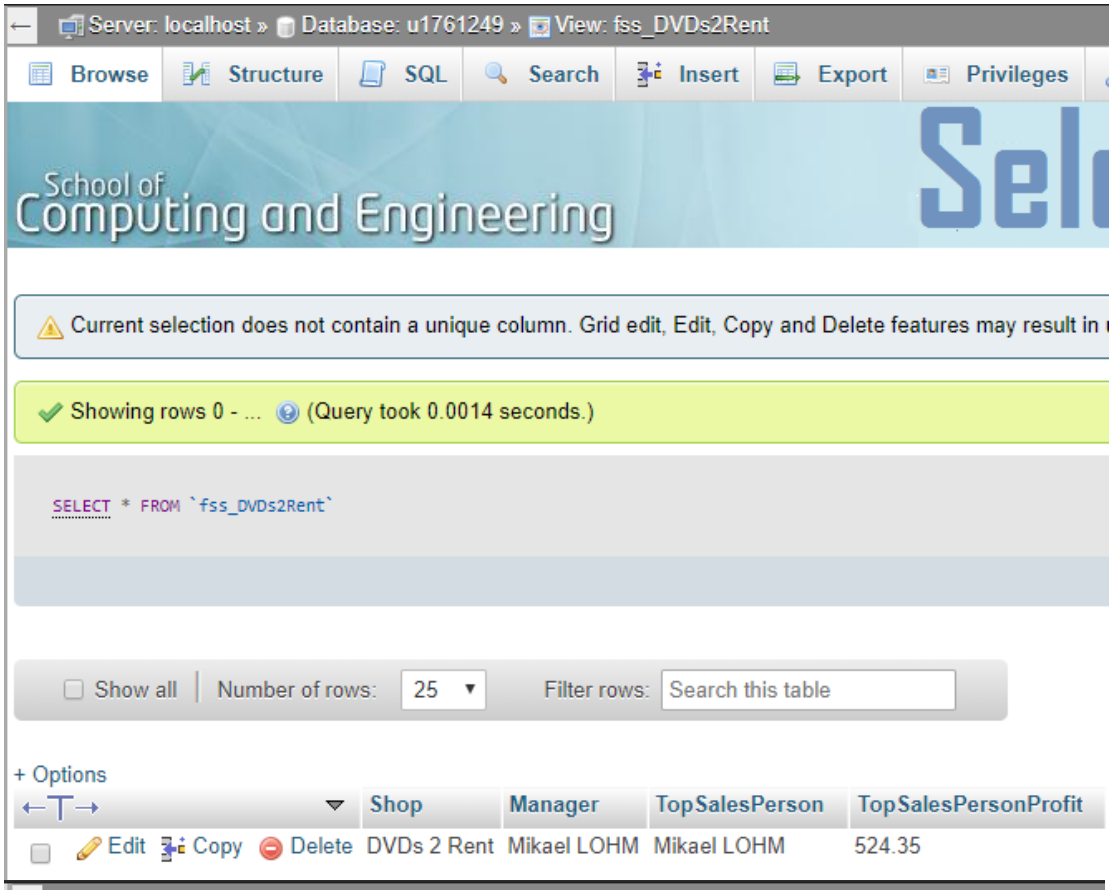


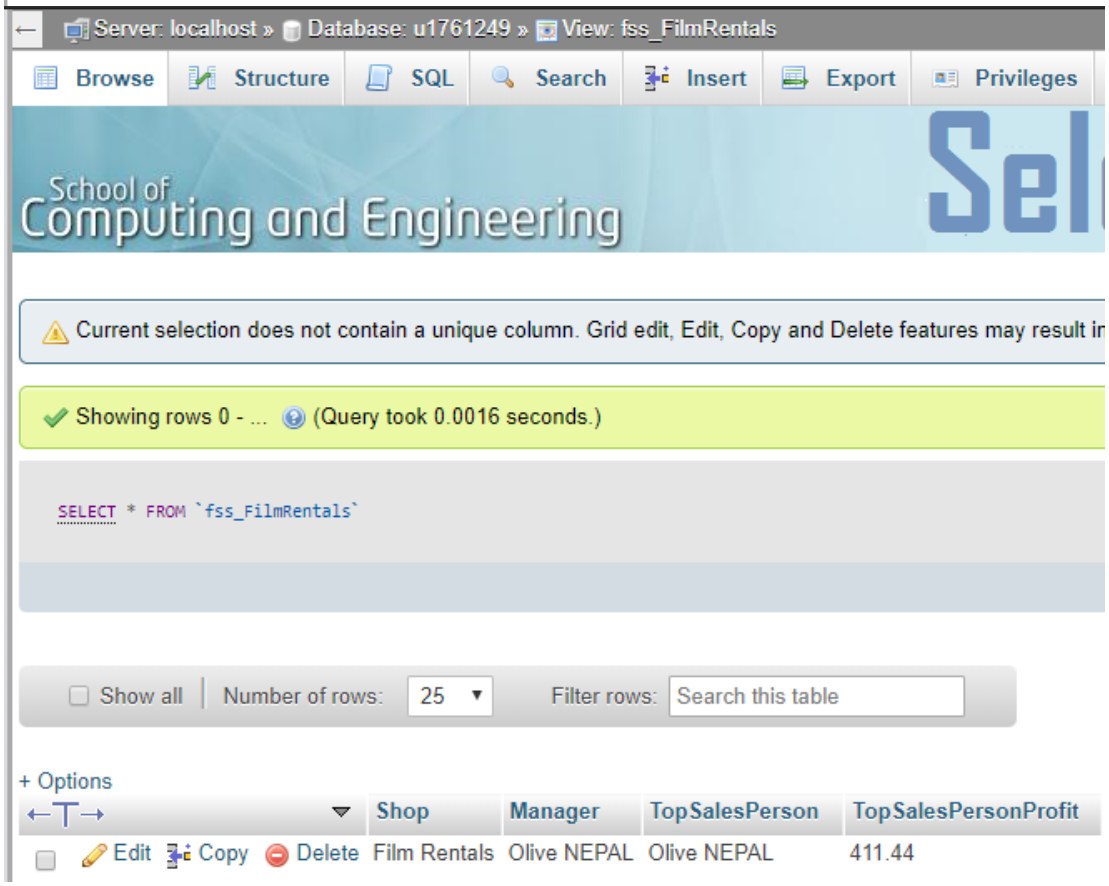
This is the views shown in the phpmyadmin list (right).

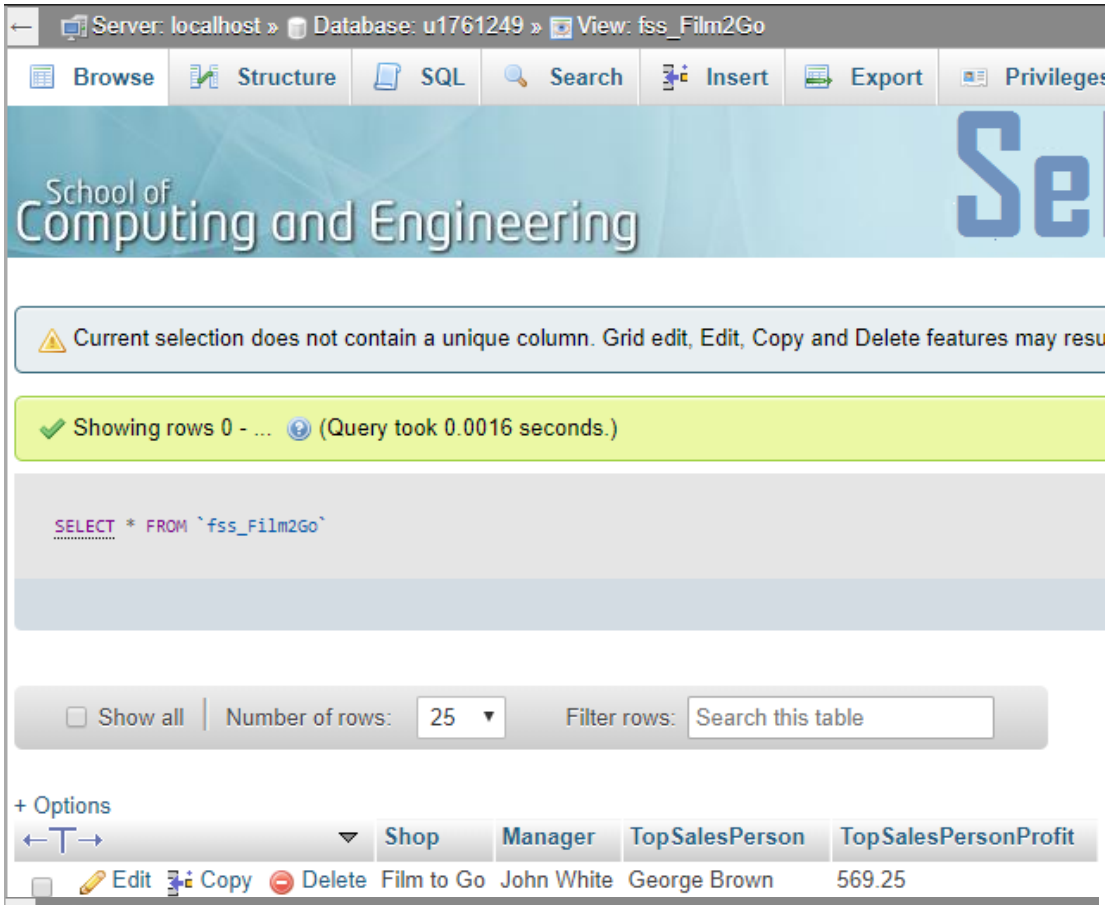

Server: localhost » Database: u1761249 » View: fss_SmithsDVDs
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in
Showing rows 0 - ... (Query took 0.2526 seconds.)
SELECT * FROM `fss_SmithsDVDs`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Smiths DVDs
Carl BACHS
Carl BACHS
416.54
Server: localhost » Database: u1761249 » View: fss_BobsFilms
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in
Showing rows 0 - ... (Query took 0.0029 seconds.)
SELECT * FROM `fss_BobsFilms`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Bobs Films
Emanuel FORT
Emma MONTFORT
385.57

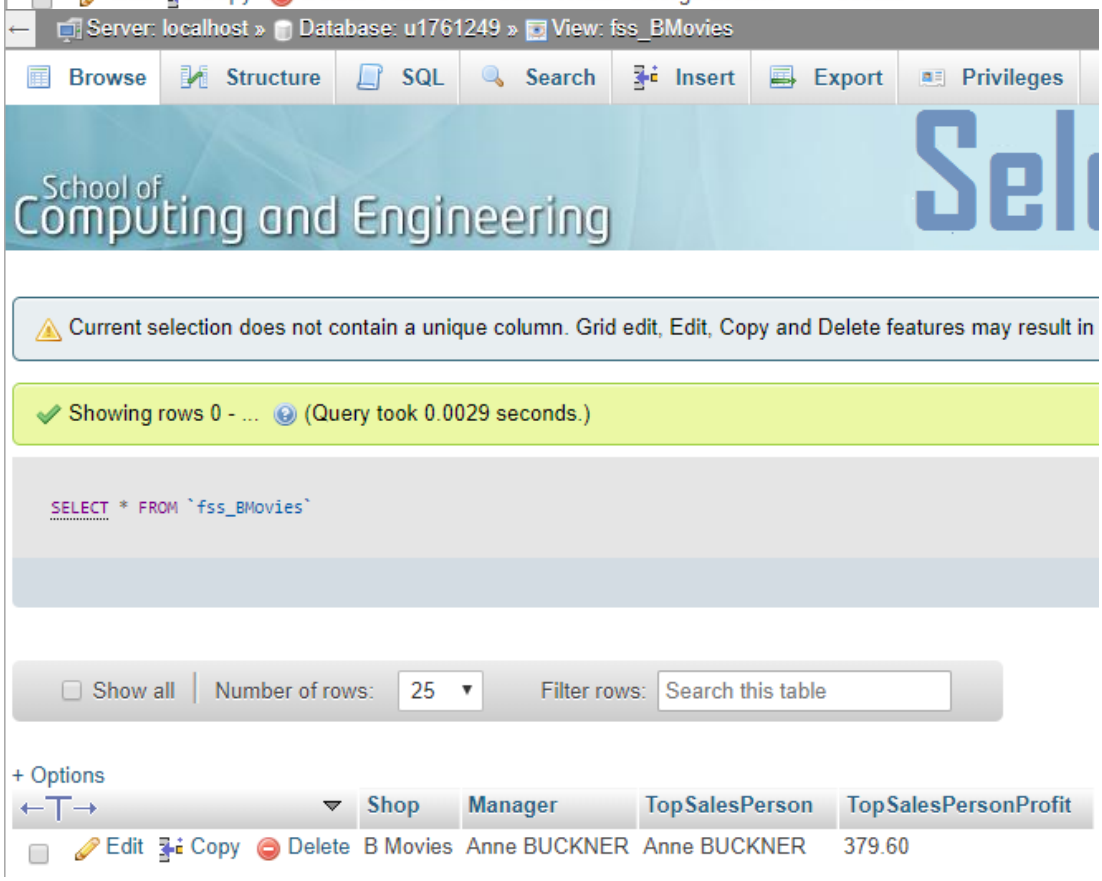

Server: localhost » Database: u1761249 » View: fss_FilmFans
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result
Showing rows 0 - ... (Query took 0.0016 seconds.)
SELECT * FROM `fss_FilmFans`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Film Fans
Ian HALL
Tony Shaw
484.40

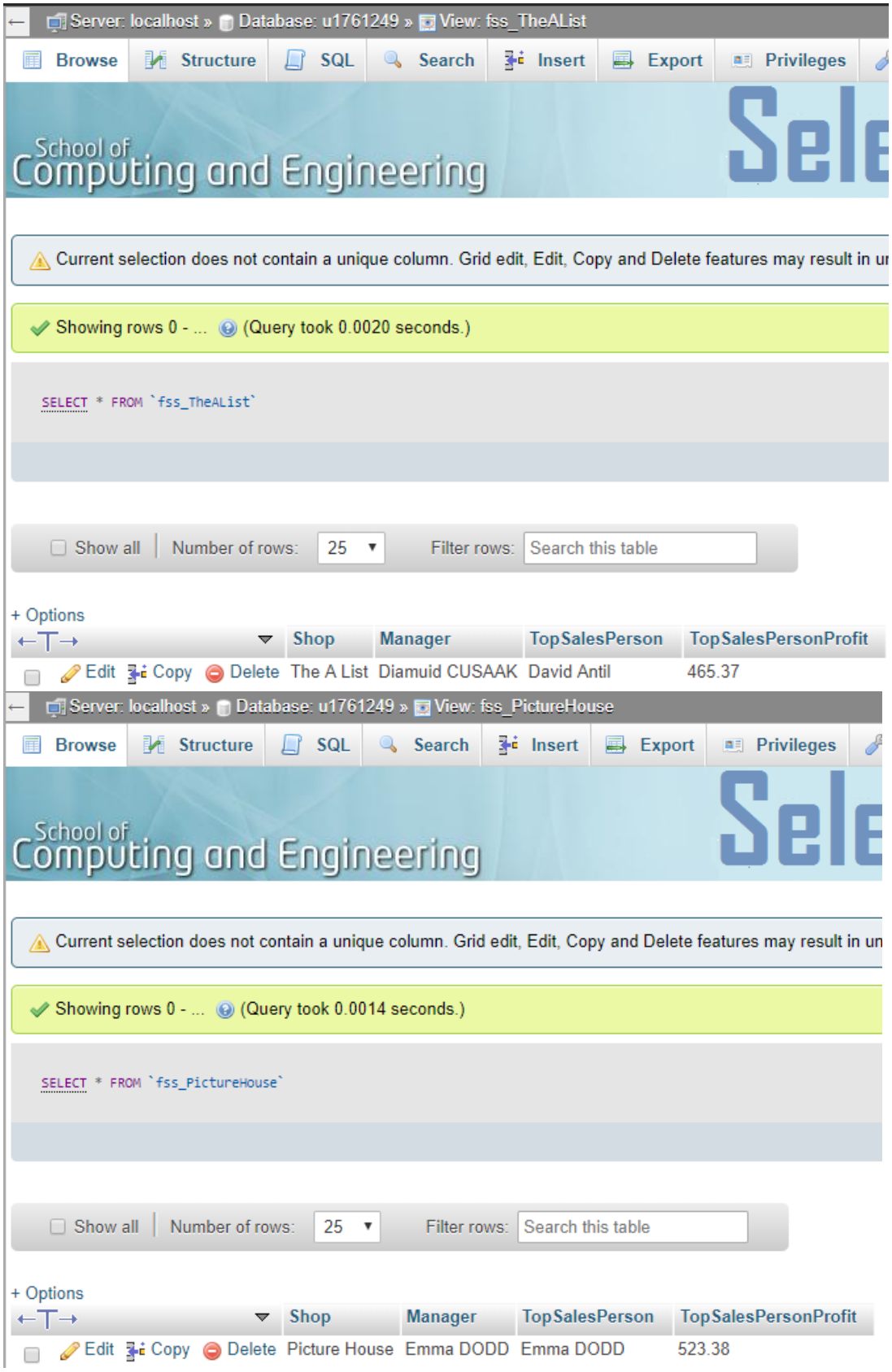

Server: localhost » Database: u1761249 » View: fss_MoviesRUs
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in
Showing rows 0 - ... (Query took 0.0015 seconds.)
SELECT * FROM `fss_MoviesRUs`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Movies R Us
Karen JUDA
Ishmail HOWE
469.45

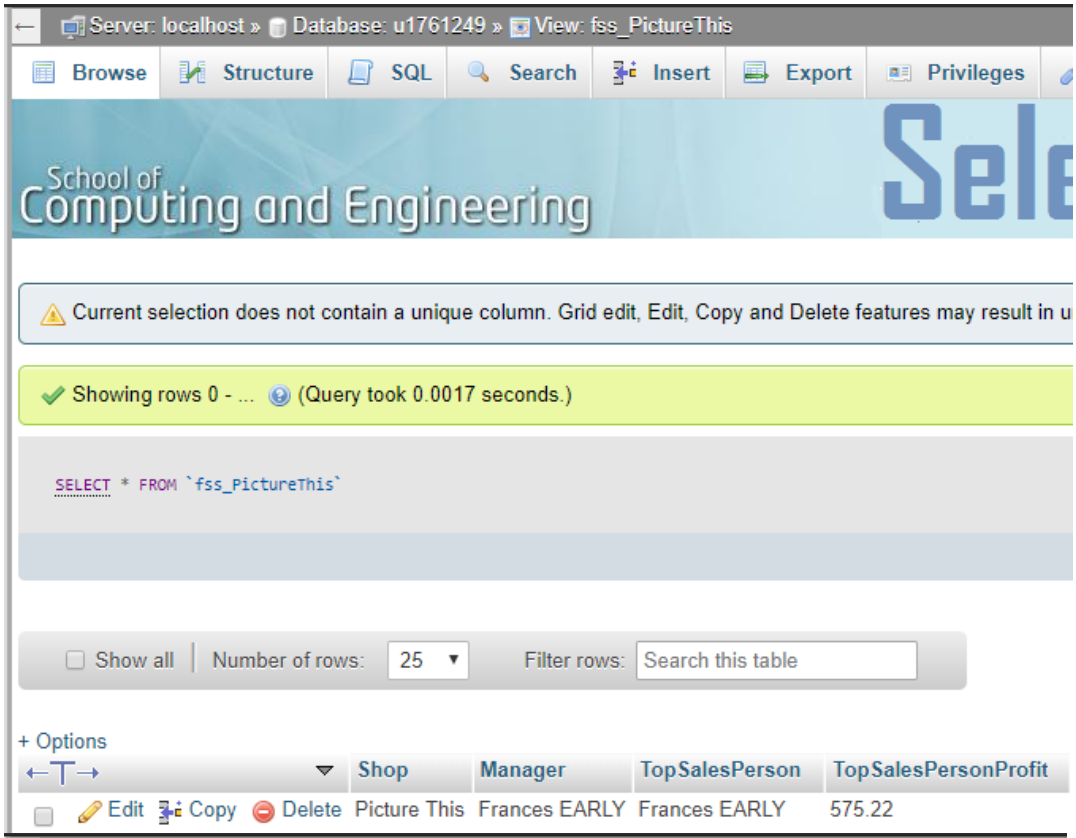

Server: localhost » Database: u1761249 » View: fss_DVDs2Rent
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in
Showing rows 0 - ... (Query took 0.0014 seconds.)
SELECT * FROM `fss_DVDs2Rent`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
DVDs 2 Rent
Mikael LOHM
Mikael LOHM
524.35

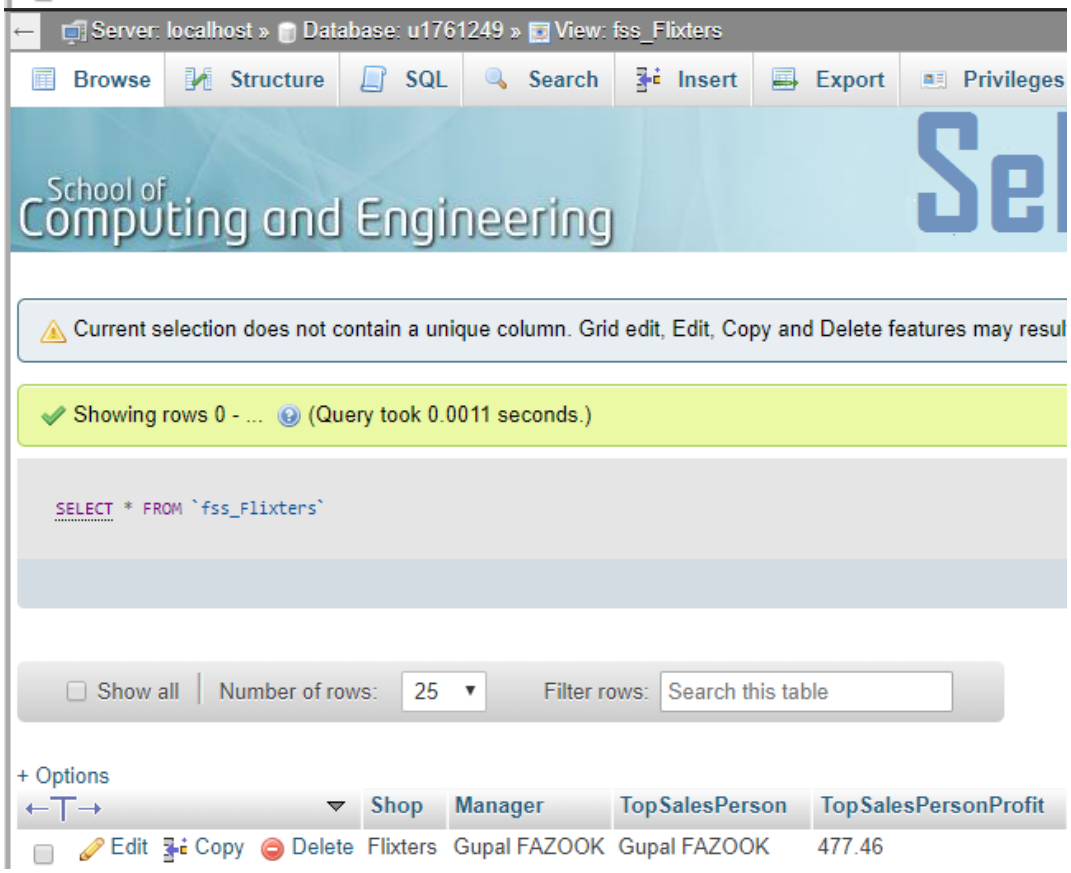

Server: localhost » Database: u1761249 » View: fss_FilmRentals
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in
Showing rows 0 - ... (Query took 0.0016 seconds.)
SELECT * FROM `fss_FilmRentals`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Film Rentals
Olive NEPAL
Olive NEPAL
411.44


Server: localhost » Database: u1761249 » View: fss_Film2Go
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of
Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may resu
Showing rows 0 - ... (Query took 0.0016 seconds.)
SELECT * FROM `fss_Film2Go`
Show all
Number of rows:
25
Filter rows:
Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Film to Go
John White
George Brown
569.25


Server: localhost » Database: u1761249 » View: fss_BMovies
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of
Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in
Showing rows 0 - ... (Query took 0.0029 seconds.)
SELECT * FROM `fss_BMovies`
Show all
Number of rows:
25
Filter rows:
Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
B Movies
Anne BUCKNER
Anne BUCKNER
379.60


Server: localhost » Database: u1761249 » View: fss_TheAList
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in ur
Showing rows 0 - ... (Query took 0.0020 seconds.)
SELECT * FROM `fss_TheAList`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit Copy Delete The A List Diamuid CUSAAK David Antil 465.37
Server: localhost » Database: u1761249 » View: fss_PictureHouse
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in un
Showing rows 0 - ... (Query took 0.0014 seconds.)
SELECT * FROM `fss_PictureHouse`
Show all
Number of rows: 25
Filter rows: Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit Copy Delete Picture House Emma DODD Emma DODD 523.38


Server: localhost » Database: u1761249 » View: fss_PictureThis
Browse
Structure
SQL
Search
Insert
Export
Privileges
School of
Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in u
Showing rows 0 - ... (Query took 0.0017 seconds.)
SELECT * FROM `fss_PictureThis`
Show all
Number of rows:
25
Filter rows:
Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Picture This
Frances EARLY
Frances EARLY
575.22


Server: localhost » Database: u1761249 » View: fss_Flixters
Browse
Structure
SQL
Search
Insert
Export
Privileges
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Computing and Engineering
Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may resul
Showing rows 0 - ... (Query took 0.0011 seconds.)
SELECT * FROM `fss_Flixters`
Show all
Number of rows:
25
Filter rows:
Search this table
+ Options
Shop
Manager
TopSalesPerson
TopSalesPersonProfit
Edit
Copy
Delete
Flixters
Gupal FAZOOK
Gupal FAZOOK
477.46