Assignment 8

Subqueries and Views

Consider the Country table and Persons table:

Query and Result

```
4  • create table country (id int primary key,
5    country_name varchar(50),
6    population varchar(50),
7    area_sqkm varchar(50));
8  • desc country;
9  • insert into country(id, country_name, population, area_sqkm)
10   values(1, 'India', '90000000', '32 lakhs'),
11   (2, 'China', '90000000', '97 lakhs'),
12   (3, 'USA', '80000000', '93 lakhs'),
13   (4, 'UK', '70000000', '2 lakhs'),
14   (5, 'Canada', '60000000', '99 lakhs'),
15   (6, 'Australia', '50000000', '50 lakhs'),
16   (7, 'Netherlands', '40000000', '32 lakhs'),
17   (8, 'Sweden', '30000000', '4 lakhs'),
18   (9, 'Austria', '20000000', '3 lakhs'),
19   (10, 'Switzerland', '10000000', '2 lakhs');
20 • select*from country;
```

Result Grid | Filter Rows: | Edit:

id	country_name	population	area_sqkm
1	India	90000000	32 lakhs
2	China	90000000	97 lakhs
3	USA	80000000	93 lakhs
4	UK	70000000	2 lakhs
5	Canada	60000000	99 lakhs
6	Australia	50000000	50 lakhs
7	Netherlands	40000000	32 lakhs
8	Sweden	30000000	4 lakhs
9	Austria	20000000	3 lakhs
10	Switzerland	10000000	2 lakhs
NULL	NULL	NULL	NULL

```
22  create table persons (id int primary key,
23  first_name varchar(50),
24  last_name varchar(50),
25  population varchar(50),
26  rating int,
27  country_id int,
28  country_name varchar(50));
29  desc persons;
30  insert into persons(id, first_name, last_name, population,rating,country_id,country_name)
31  values(1, 'Lisha', 'Thomas', '90000000', 1, 1, 'India'),
32  (2, 'Chaang', 'Yaang', '90000000', 2, 2, 'China'),
33  (3, 'Thomas', 'Cook', '80000000', 3, 3, 'USA'),
34  (4, 'Diana', 'Xavier', '90000000', 1, 1, 'India'),
35  (5, 'Freddy', 'Dainz', '60000000', 5, 5, 'Canada'),
36  (6, 'Hari', 'Sharma', '90000000', 1, 1, 'India'),
37  (7, 'william', 'Blake', '40000000', 7, 7, 'Netherlands'),
38  (8, 'Right', 'Thomas', '30000000',8, 8, 'Sweden'),
39  (9, 'Cindrella', 'John', '20000000', 9, 9, 'Austria'),
40  (10, 'Irene', 'Dizooza', '10000000', 10, 10, 'Iceland');
41  select*from persons;
```

Result Grid | Filter Rows: | Edit: | Export/Import:

id	first_name	last_name	population	rating	country_id	country_name
1	Lisha	Thomas	90000000	1	1	India
2	Chaang	Yaang	90000000	2	2	China
3	Thomas	Cook	80000000	3	3	USA
4	Diana	Xavier	90000000	1	1	India
5	Freddy	Dainz	60000000	5	5	Canada
6	Hari	Sharma	90000000	1	1	India
7	william	Blake	40000000	7	7	Netherlands
8	Right	Thomas	30000000	8	8	Sweden
9	Cindrella	John	20000000	9	9	Austria
10	Irene	Dizooza	10000000	10	10	Iceland
NULL	NULL	NULL	NULL	NULL	NULL	NULL

1. Find the number of persons in each country.

Query and Result

```
43      #Find the number of persons in each country
44 •    select country_name, count(*) as person_count from
45      (select country_name from persons)as subquery group by country_name;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

country_name	person_count
India	3
China	1
USA	1
Canada	1
Netherlands	1
Sweden	1
Austria	1
Iceland	1

2. Find the number of persons in each country sorted from high to low.

Query and Result

```
47      #Find the number of persons in each country sorted from high to low
48 •    select country_name, person_count from(select country_name, count(*) as person_count
49      from persons group by country_name) as subquery order by person_count desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

country_name	person_count
India	3
China	1
USA	1
Canada	1
Netherlands	1
Sweden	1
Austria	1
Iceland	1

3. Find out an average rating for Persons in respective countries if the average is greater than 3.0

Query and Result

```
51      #Find out an average rating for Persons in respective countries if the average is greater than 3.0
52 •    select country_name, average_rating from(select country_name, avg(rating) as average_rating
53      from persons group by country_name) as subquery where average_rating>3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

country_name	average_rating
Canada	5.0000
Netherlands	7.0000
Sweden	8.0000
Austria	9.0000
Iceland	10.0000

4. Find the countries with the same rating as the USA.

Query and Result

```
55    #Find the countries with the same rating as the USA
56    select country_name, avg(rating) from persons group by country_name having avg(rating)=
57    (select avg(rating) from persons where country_name='USA');
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

country_name	avg(rating)
USA	3.0000

5. Select all countries whose population is greater than the average population of all nations.

Query and Result

```
59    #Select all countries whose population is greater than the average population of all nations
60    select distinct country_name from persons where population>
61    (select avg(population) from persons);
62
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

country_name
India
China
USA

Create a database named Product and create a table called Customer with the following fields in the Product database: Customer_Id - Make PRIMARY KEY, First_name, Last_name, Email, Phone_no, Address, City, State, Zip_code, Country.

Query and Result

```
1   create database Product;
2   use Product;
3
4   create table customer (customer_id int primary key,
5   first_name varchar(50),
6   last_name varchar(50),
7   email varchar(50),
8   phone_no varchar(50),
9   address varchar(50),
10  city varchar(50),
11  state varchar(50),
12  zipcode varchar(50),
13  country varchar(50));
14  desc customer;
```

```
16  insert into customer(customer_id, first_name, last_name, email,
17  phone_no,address,city,state,zipcode,country)
18  values(1, 'Lisha', 'Thomas', 'lishathomas@example.com', 78955675,
19        'BerlingStreet', 'Mumbai','Maharahtra','1234','India'),
20        (2, 'Anu', 'Samson', 'anusamson@example.com', 78955676,
21        'AnandNagar', 'Mumbai','Maharahtra','1235','India'),
22        (3, 'David', 'Gomez', 'davidgomez@example.com', 78955677,
23        'RosscotLane', 'LosAngeles','California','2314','USA'),
24        (4, 'William', 'Manual', 'williammanual@example.com', 78955678,
25        '32BStreet', 'SantaAna','California','2316','USA'),
26        (5, 'Alan', 'Stosky', 'alanstosky@example.com', 78955679,
27        '33CStreet', 'LosAngeles','California','2315','USA'),
28        (6, 'Fred', 'Dizooz', 'freddizooz@example.com', 78955680,
29        '69CStreet', 'LosAngeles','California','2317','USA'),
30        (7, 'Catherine', 'Mathew', 'catherinemathew@example.com', 78955681,
31        '72DStreet', 'LosAngeles','California','2318','USA'),
32        (8, 'Zavy', 'Mathew', 'zavymathew@example.com', 78955682,
33        '87MStreet', 'LosAngeles','California','2319','USA'),
34        (9, 'Anand', 'Singh', 'anandsingh@example.com', 78955683,
35        'DaffodilStreet', 'Dallupura','Delhi','1236','India'),
36        (10, 'Divya', 'Sethunath', 'divyasethunath@example.com', 78955684,
37        'UdaypuramRoad', 'Trivandrum','Kerala','1237','India');
38  select* from customer;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

customer_id	first_name	last_name	email	phone_no	address	city	state	zipcode	country
1	Lisha	Thomas	lishathomas@example.com	78955675	BerlingStreet	Mumbai	Maharahtra	1234	India
2	Anu	Samson	anusamson@example.com	78955676	AnandNagar	Mumbai	Maharahtra	1235	India
3	David	Gomez	davidgomez@example.com	78955677	RosscotLane	LosAngeles	California	2314	USA
4	William	Manual	williammanual@example.com	78955678	32BStreet	SantaAna	California	2316	USA
5	Alan	Stosky	alanstosky@example.com	78955679	33CStreet	LosAngeles	California	2315	USA
6	Fred	Dizooz	freddizooz@example.com	78955680	69CStreet	LosAngeles	California	2317	USA
7	Catherine	Mathew	catherinemathew@example.com	78955681	72DStreet	LosAngeles	California	2318	USA
8	Zavy	Mathew	zavymathew@example.com	78955682	87MStreet	LosAngeles	California	2319	USA
9	Anand	Singh	anandsingh@example.com	78955683	DaffodilStreet	Dallupura	Delhi	1236	India
10	Divya	Sethunath	divyasethunath@example.com	78955684	UdaypuramRoad	Trivandrum	Kerala	1237	India
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

1. Create a view named customer_info for the Customer table that displays Customer's Full name and email address. Then perform the SELECT operation for the customer_info view.

Query and Result

```sql
/* Create a view named customer_info for the Customer table that displays
Customer's Full name and email address. Then perform the SELECT operation
for the customer_info view*/
CREATE VIEW customer_info AS
SELECT
concat(first_name,' ',last_name) as full_name, email
FROM customer;
select* from customer_info;
```

Result Grid | Filter Rows: | Export:

full_name	email
Lisha Thomas	lishathomas@example.com
Anu Samson	anusamson@example.com
David Gomez	davidgomez@example.com
William Manual	williammanual@example.com
Alan Stosky	alanstosky@example.com
Fred Dizooz	freddizooz@example.com
Catherine Mathew	catherinemathew@example.com
Zavy Mathew	zavymathew@example.com
Anand Singh	anandsingh@example.com
Divya Sethunath	divyasethunath@example.com

2. Create a view named US_Customers that displays customers located in the US.

Query and Result

```sql
/*Create a view named US_Customers that displays customers located in the US*/
CREATE VIEW US_customers AS
SELECT *
FROM customer where country='USA';
select* from US_customers;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	first_name	last_name	email	phone_no	address	city	state	zipcode	country
3	David	Gomez	davidgomez@example.com	78955677	RosscotLane	LosAngeles	California	2314	USA
4	William	Manual	williammanual@example.com	78955678	32BStreet	SantaAna	California	2316	USA
5	Alan	Stosky	alanstosky@example.com	78955679	33CStreet	LosAngeles	California	2315	USA
6	Fred	Dizooz	freddizooz@example.com	78955680	69CStreet	LosAngeles	California	2317	USA
7	Catherine	Mathew	catherinemathew@example.com	78955681	72DStreet	LosAngeles	California	2318	USA
8	Zavy	Mathew	zavymathew@example.com	78955682	87MStreet	LosAngeles	California	2319	USA

3. Create another view named Customer_details with columns full name (Combine first_name and last_name), email, phone_no, and state.

Query and Result

```sql
/*Create another view named Customer_details with columns full name
(Combine first_name and last_name), email, phone_no, and state*/
CREATE VIEW customer_details AS
SELECT
concat(first_name,' ',last_name) as full_name, email, phone_no,state
FROM customer;
select* from customer_details;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

full_name	email	phone_no	state
Lisha Thomas	lishathomas@example.com	78955675	Maharahtra
Anu Samson	anusamson@example.com	78955676	Maharahtra
David Gomez	davidgomez@example.com	78955677	California
William Manual	williammanual@example.com	78955678	California
Alan Stosky	alanstosky@example.com	78955679	California
Fred Dizooz	freddizooz@example.com	78955680	California
Catherine Mathew	catherinemathew@example.com	78955681	California
Zavy Mathew	zavymathew@example.com	78955682	California
Anand Singh	anandsingh@example.com	78955683	Delhi
Divya Sethunath	divyasethunath@example.com	78955684	Kerala

4. Update phone numbers of customers who live in California for Customer_details view.

Query and Result

```sql
/*Update phone numbers of customers who live in California for Customer_details view*/
UPDATE customer_details SET phone_no = '6556787698' where email = 'davidgomez@example.com';
UPDATE customer_details SET phone_no = '6556787699' where email = 'williammanual@example.com';
UPDATE customer_details SET phone_no = '6556787700' where email = 'alanstosky@example.com';
UPDATE customer_details SET phone_no = '6556787701' where email = 'freddizooz@example.com';
UPDATE customer_details SET phone_no = '6556787697' where email = 'catherinemathew@example.com';
UPDATE customer_details SET phone_no = '6556787696' where email = 'zavymathew@example.com';
set sql_safe_updates =0;
select* from customer_details where state='California';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

full_name	email	phone_no	state
David Gomez	davidgomez@example.com	6556787698	California
William Manual	williammanual@example.com	6556787699	California
Alan Stosky	alanstosky@example.com	6556787700	California
Fred Dizooz	freddizooz@example.com	6556787701	California
Catherine Mathew	catherinemathew@example.com	6556787697	California
Zavy Mathew	zavymathew@example.com	6556787696	California

5. Count the number of customers in each state and show only states with more than 5 customers.

Query and Result

```
67    /*Count the number of customers in each state and show only states with more than 5 customers*/
68 •  CREATE VIEW cust_count AS
69    SELECT
70    state, count(*) as customer_count
71    FROM customer
72    group by state having count(*)>5;
73 •  select* from cust_count;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

state	customer_count
California	6

6. Write a query that will return the number of customers in each state, based on the "state" column in the "customer_details" view.

Query and Result

```
75    /*Write a query that will return the number of customers in each state,
76    based on the "state" column in the "customer_details" view*/
77 •  CREATE VIEW state_customer_count AS
78    SELECT
79    state, count(*) as state_cust_count
80    FROM customer_details
81    group by state;
82 •  select* from state_customer_count;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

state	state_cust_count
Maharahtra	2
California	6
Delhi	1
Kerala	1

7. Write a query that returns all the columns from the "customer_details" view, sorted by the "state" column in ascending order.

Query and Result

```
90  /*Write a query that returns all the columns from the
91  "customer_details" view, sorted by the "state" column in ascending order*/
92  CREATE VIEW customer_asc AS
93  SELECT *
94  FROM customer_details order by state ASC;
95  select* from customer_asc;
96
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

full_name	email	phone_no	state
David Gomez	davidgomez@example.com	6556787698	California
William Manual	williammanual@example.com	6556787699	California
Alan Stosky	alanstosky@example.com	6556787700	California
Fred Dizooz	freddizooz@example.com	6556787701	California
Catherine Mathew	catherinemathew@example.com	6556787697	California
Zavy Mathew	zavymathew@example.com	6556787696	California
Anand Singh	anandsingh@example.com	78955683	Delhi
Divya Sethunath	divyasethunath@example.com	78955684	Kerala
Lisha Thomas	lishathomas@example.com	78955675	Maharahtra
Anu Samson	anusamson@example.com	78955676	Maharahtra