

DBMS LAB3

OUTPUTS & QUERIES

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Patient Table:-

MySQL Shell

```
MySQL localhost:33060+ ssl lab3 SQL > select * from patient;
```

p_id	patient_name	sex	age	city	h_id	area
1	sheldon	M	23	Goa	3	Goan Square
2	George	M	13	Goa	4	Goan Square
3	Kumar	M	12	Goa	3	NK2 Square
4	stephen	M	13	kakkanad	4	Jewish Peace Village
5	Georgina	F	13	kakkanad	4	Metro Walk Zone
6	Princess zelda	F	19	kakkanad	5	Folks Circle
7	Singh	M	29	kakkanad	5	Folks Circle
8	Mamooty	M	67	kochi	5	Folks Circle

8 rows in set (0.0013 sec)

Test Report Table:-

```
MySQL localhost:33060+ ssl lab3 SQL > select * from test_report;
```

t_id	p_id	reporting_date	test_result	discharge_date	h_id
1	1	2020-07-02	positive	2020-07-31	1
2	2	2020-07-03	positive	2020-07-29	1
3	5	2020-07-02	negative	2020-08-03	4
4	6	2020-07-04	positive	2020-08-07	4
6	7	2020-08-21	negative	2021-08-23	1
7	4	2020-08-04	positive	2021-09-08	1
5	3	2021-08-21	negative	2021-08-23	1
8	8	2021-01-21	positive	2021-07-19	5

8 rows in set (0.0071 sec)

Hospital Table:-

```
MySQL localhost:33060+ ssl lab3 SQL > select * from hospital;
```

h_id	hospital_name	location	state
1	kims	chennai	tamil nadhu
3	cmc ludhiana	ludhiana	rajasthan
4	apollo	kakkanad	kerala
5	tata hospitals	bangalore	karnataka
6	aster medicity	kochi	kerala

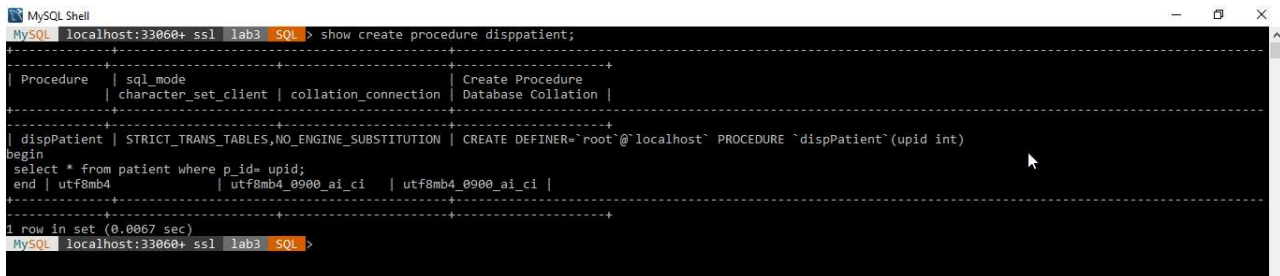
5 rows in set (0.0070 sec)

```
MySQL localhost:33060+ ssl lab3 SQL > _
```

1. Create a procedure to display the details of a patient record for a given Patient ID.

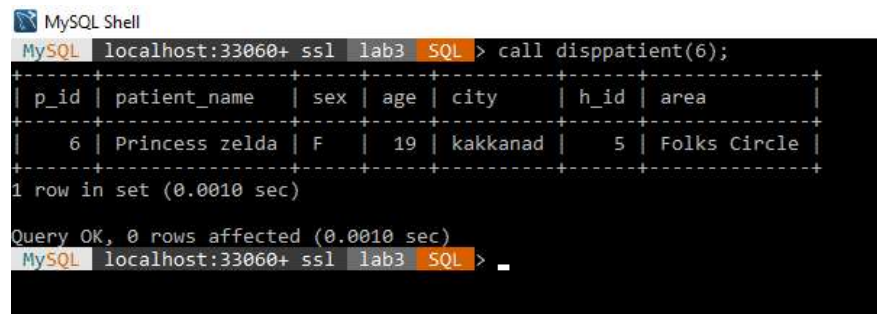
- Query:-

```
CREATE PROCEDURE dispPatient (u_pid int)
begin
SELECT * FROM patient WHERE p_id= u_pid; end //
```



```
MySQL localhost:33060+ ssl lab3 SQL > show create procedure disppatient;
+-----+-----+-----+
| Procedure | sql_mode | character_set_client | collation_connection | Create Procedure |
|-----|-----|-----|-----|-----|
| disppatient | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci | CREATE DEFINER='root'@'localhost' PROCEDURE `disppatient`(upid int)
begin
select * from patient where p_id= upid;
end | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+
1 row in set (0.0067 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

- Output:-



```
MySQL localhost:33060+ ssl lab3 SQL > call disppatient(6);
+-----+-----+-----+-----+-----+-----+
| p_id | patient_name | sex | age | city | h_id | area |
+-----+-----+-----+-----+-----+-----+
| 6 | Princess zelda | F | 19 | kakkanad | 5 | Folks Circle |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.0010 sec)

Query OK, 0 rows affected (0.0010 sec)
MySQL localhost:33060+ ssl lab3 SQL > _
```

2. Create a procedure to add details of a new patient record into patient table.

- Query:-

```
CREATE PROCEDURE insertPatient(u_pid integer, u_patient_name varchar(30),
u_sex varchar(1), u_age integer, u_city varchar(30), u_h_id integer, u_area
varchar(20))
begin
INSERT INTO PATIENT VALUES(u_pid, u_patient_name, u_sex, u_age, u_city,
u_h_id, u_area);
```

End //

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL> show create procedure insertpatient;
+-----+-----+
| Procedure | sql_mode | Create Procedure |
+-----+-----+
| insertPatient | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' PROCEDURE 'insertPatient'(u_pid integer, u_patient_name varchar(30), u_sex varchar(1), u_age integer, u_city varchar(30), u_h_id integer, u_area varchar(20))
begin
INSERT INTO PATIENT VALUES(u_pid, u_patient_name, u_sex, u_age, u_city, u_h_id, u_area);
End | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.0010 sec)
MySQL localhost:33060+ ssl lab3 SQL>
```

- **Output:-**

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL> call insertpatient(8, 'Mamooty', 'M', 67, 'kochi', 5, 'Folks Circle');
Query OK, 1 row affected (0.0107 sec)
MySQL localhost:33060+ ssl lab3 SQL> select * from patient;
+-----+-----+
| p_id | patient_name | sex | age | city | h_id | area |
+-----+-----+
| 1 | sheldon | M | 23 | Goa | 3 | Goan Square |
| 2 | George | M | 13 | Goa | 4 | Goan Square |
| 3 | Kumar | M | 12 | Goa | 3 | NK2 Square |
| 4 | stephen | M | 13 | kakkanad | 4 | Jewish Peace Village |
| 5 | Georgina | F | 13 | kakkanad | 4 | Metro Walk Zone |
| 6 | Princess zelda | F | 19 | kakkanad | 5 | Folks Circle |
| 7 | Singh | M | 29 | kakkanad | 5 | Folks Circle |
| 8 | Mamooty | M | 67 | kochi | 5 | Folks Circle |
+-----+-----+
8 rows in set (0.0065 sec)
MySQL localhost:33060+ ssl lab3 SQL> _
```

3. Write a procedure that lists the highest cases reported in a district of any particular state. Use the procedure named Find_highest which finds the highest cases for the given State.

- **Query:-**

- **highestNoCases procedure:-**

```
create procedure highestNoCases(u_state varchar(30))
```

```
begin
```

```
declare district varchar(30);
```

```
call findhighest(u_state, district);
```

```
select location, count(*) from hospital inner join test_report using(h_id) where
location = district and test_result !='positive';
```

end //

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create procedure highestnocases //
+-----+-----+-----+
| Procedure | sql_mode | Create Procedure |
+-----+-----+-----+
| highestNoCases | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' PROCEDURE 'highestNoCases'(u_state varchar(30))
begin
declare district varchar(30);
call findhighest(u_state,district);
select location,count(*) from hospital inner join test_report using(h_id) where location = district and test_result = 'positive';
and | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+
1 row in set (0.0006 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

➤ findHighest procedure:-

create procedure findHighest(in u_state varchar(30),out ans varchar(30))

begin select location into ans from hospital inner join test_report using(h_id) where state = u_state and test_result = 'positive' group by location order by count(*) desc limit 1; end //

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create procedure findhighest
-> //
+-----+-----+-----+
| Procedure | sql_mode | Create Procedure |
+-----+-----+-----+
| findHighest | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' PROCEDURE 'findHighest'(in u_state varchar(30),out ans varchar(30) )
begin select location into ans from hospital inner join test_report using(h_id) where state = u_state and test_result = 'positive' group by location order by count(*) d
esc limit 1; end | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+
1 row in set (0.0005 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

• Output:-

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > call highestnocases('tamil nadhu');
+-----+-----+
| location | count(*) |
+-----+-----+
| chennai | 3 |
+-----+-----+
1 row in set (0.0008 sec)

Query OK, 0 rows affected (0.0008 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

4. Write a procedure to list the hospital, which has fastest recovery.

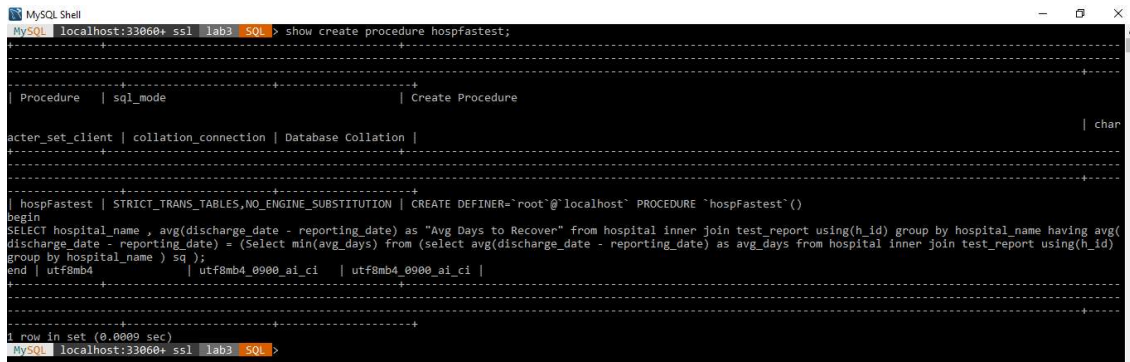
• Query:-

```
CREATE PROCEDURE hospFastest()
```

```
begin
```

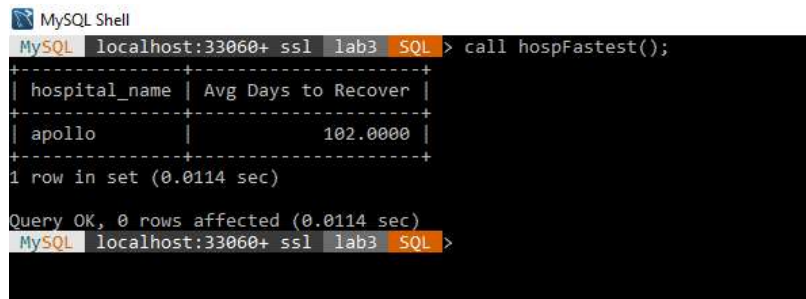
```
SELECT hospital_name , avg(discharge_date - reporting_date) as "Avg Days to Recover" from hospital inner join test_report using(h_id) group by hospital_name having avg(discharge_date - reporting_date) = (Select min(avg_days) from (select avg(discharge_date - reporting_date) as avg_days from hospital inner join test_report using(h_id) group by hospital_name ) sq );
```

```
end //
```



```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create procedure hospFastest;
+-----+-----+-----+
| Procedure | sql_mode | Create Procedure |
+-----+-----+-----+
| hospFastest | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' PROCEDURE 'hospFastest'()
begin
SELECT hospital_name , avg(discharge_date - reporting_date) as "Avg Days to Recover" from hospital inner join test_report using(h_id) group by hospital_name having avg(
discharge_date - reporting_date) = (Select min(avg_days) from (select avg(discharge_date - reporting_date) as avg_days from hospital inner join test_report using(h_id)
group by hospital_name ) sq );
end | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+
1 row in set (0.0009 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

- **Output:-**



```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > call hospFastest();
+-----+-----+
| hospital_name | Avg Days to Recover |
+-----+-----+
| apollo        | 102.0000             |
+-----+-----+
1 row in set (0.0114 sec)
Query OK, 0 rows affected (0.0114 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

5. Create a procedure to delete a record from patient table

- **Query:-**

```
CREATE PROCEDURE deletepatient(u_pid integer)
```

```
Delete from patient where p_id = u_pid;
```

end //

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create procedure deletepatient;
+-----+-----+-----+-----+
| Procedure | sql_mode | character_set_client | collation_connection | Database Collation |
+-----+-----+-----+-----+
| deletePatient | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' | PROCEDURE `deletePatient`(u_pid int) |
+-----+-----+-----+-----+
begin
delete from patient where p_id= u_pid;
end | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+-----+
1 row in set (0.0007 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

- **Output:-**

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > call deletepatient(8);
Query OK, 1 row affected (0.0146 sec)
MySQL localhost:33060+ ssl lab3 SQL > select * from patient;
+-----+-----+-----+-----+-----+-----+-----+
| p_id | patient_name | sex | age | city | h_id | area |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | sheldon | M | 23 | Goa | 3 | Goan Square |
| 2 | George | M | 13 | Goa | 4 | Goan Square |
| 3 | Kumar | M | 12 | Goa | 3 | NK2 Square |
| 4 | stephen | M | 13 | kakkanad | 4 | Jewish Peace Village |
| 5 | Georgina | F | 13 | kakkanad | 4 | Metro Walk Zone |
| 6 | Princess zelda | F | 19 | kakkanad | 5 | Folks Circle |
| 7 | Singh | M | 29 | kakkanad | 5 | Folks Circle |
+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.0006 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

6. Write a function to display the patient details from the Patient table.

- **Query:-**

PROCEDURAL APPROACH:-

create procedure q6disppatient()

begin select * from patient; END //

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create procedure q6disppatient;
+-----+-----+-----+-----+
| Procedure | sql_mode | character_set_client | collation_connection | Database Collation |
+-----+-----+-----+-----+
| q6disppatient | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' | PROCEDURE `q6disppatient`() |
+-----+-----+-----+-----+
begin
select * from patient;
end | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+-----+
1 row in set (0.0008 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

FUNCTIONAL APPROACH:-

However, it is possible to retrieve single set information with functions. For instance, retrieve patient name when given patient id.

create function patientName(u_pid int) returns varchar(30) deterministic

begin

declare ans varchar(30);

select patient_name from patient where p_id =u_pid into ans;

return ans;

end //

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create function patientname;
+-----+-----+-----+-----+-----+-----+
| Function | sql_mode | Create Function | character_set_client | collation_connection |
+-----+-----+-----+-----+-----+-----+
| patientName | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' FUNCTION 'patientName'( u_pid int) RETURNS varchar(30) CHARSET utf8mb4 DETERMINISTIC | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.0006 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

• Outputs:-

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > call q6disppatient();
+-----+-----+-----+-----+-----+-----+
| p_id | patient_name | sex | age | city | h_id | area |
+-----+-----+-----+-----+-----+-----+
| 1 | sheldon | M | 23 | Goa | 3 | Goan Square |
| 2 | George | M | 13 | Goa | 4 | Goan Square |
| 3 | Kumar | M | 12 | Goa | 3 | NK2 Square |
| 4 | stephen | M | 13 | kakkanad | 4 | Jewish Peace Village |
| 5 | Geongina | F | 13 | kakkanad | 4 | Metro Walk Zone |
| 6 | Princess zelda | F | 19 | kakkanad | 5 | Folks Circle |
| 7 | Singh | M | 29 | kakkanad | 5 | Folks Circle |
| 8 | Mamooty | M | 67 | kochi | 5 | Folks Circle |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.0014 sec)

Query OK, 0 rows affected (0.0014 sec)
MySQL localhost:33060+ ssl lab3 SQL > select patientname(3);
+-----+
| patientname(3) |
+-----+
| Kumar |
+-----+
1 row in set (0.0063 sec)
```

7. Write a function to list the state, which has reported with maximum child COVID cases

• Query:-

create function stateMaxChild() returns varchar(30) deterministic


```
delimiter ; //
```

```
MySQL Shell
mysql> show create function statemaxchild;

+-----+-----+-----+-----+-----+
| Function | sql_mode | Create Function | character_set_client | collation_c |
+-----+-----+-----+-----+-----+
| stateMaxChild | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' FUNCTION `stateMaxChild`() RETURNS varchar(30) CHARSET utf8mb4 DETERMINISTIC  
begin  
declare ans varchar(30);  
select state into ans from test_report inner join hospital using(h_id) inner join patient using(p_id) where age<18 and test_result='positive' group by state having  
count(*) = (select max(no_of_cases) from ( select count(*) as no_of_cases from test_report  
inner join hospital using(h_id) inner join patient using(p_id) where age<18 and  
test_result='positive' group by state order by count(*) ) sq );  
return ans;  
end | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+-----+-----+
1 row in set (0.0005 sec)
```

- Output:-

```
MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > select statemaxchild();
+-----+
| statemaxchild() |
+-----+
| tamil nadhu     |
+-----+
1 row in set (0.0017 sec)
MySQL localhost:33060+ ssl lab3 SQL >
```

8. Write a function to find the hotspot area in a district based on the Test results

- Query:-

create function hotspotArea() returns varchar(30) deterministic


```

begin

declare ans varchar(30);

select area into ans from test_report inner join patient using(p_id) where
test_result='positive' group by area having count(*) = (Select max(no_of_cases) from (select count(*) as no_of_cases from test_report inner join patient using(p_id) where
test_result='positive' group by area ) sq );

return ans;

end//

delimiter ; //

```

```

MySQL localhost:33060+ ssl lab3 SQL > show create function hotspotarea;
+-----+-----+-----+-----+
| Function | sql_mode | Create Function |
+-----+-----+-----+-----+
| hotspotArea | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' FUNCTION `hotspotArea`() RETURNS varchar(30) CHARSET utf8mb4 DETERMINISTIC |
+-----+-----+-----+-----+
| character_set_client | collation_connection | Database Collation |
+-----+-----+-----+-----+
| utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+-----+
1 row in set (0.0006 sec)
MySQL localhost:33060+ ssl lab3 SQL >

```

- **Output:-**

```

MySQL localhost:33060+ ssl lab3 SQL > select hotspotarea();
+-----+
| hotspotarea() |
+-----+
| Goan Square |
+-----+
1 row in set (0.0012 sec)
MySQL localhost:33060+ ssl lab3 SQL >

```

9. Write a function to display total number of male and female patients tested for COVID of which how many are reported with positive in a particular state.

- **Query:-**

```
create function positiveCount() returns int deterministic
```

```

begin

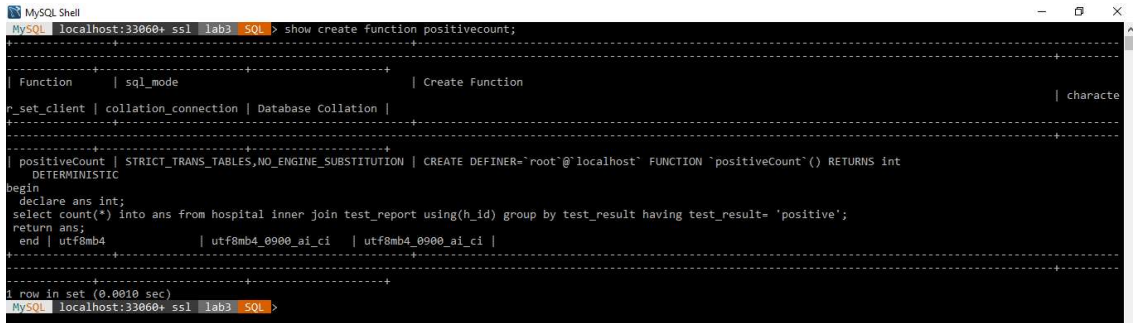
declare ans int;

select count(*) into ans from hospital inner join test_report using(h_id) group by
test_result having test_result= 'positive';

return ans;

end//

```

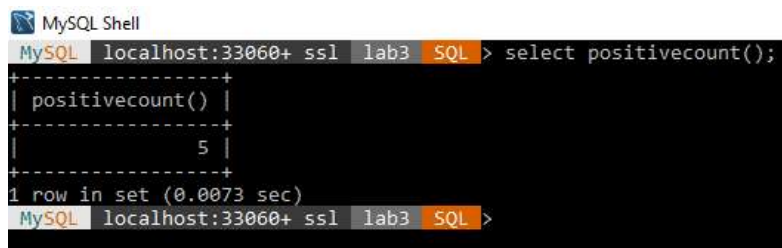


```

MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create function positivecount;
+-----+-----+-----+
| Function | sql_mode | Create Function |
+-----+-----+-----+
| positiveCount | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' FUNCTION 'positiveCount'() RETURNS int DETERMINISTIC |
+-----+-----+-----+
begin
  declare ans int;
  select count(*) into ans from hospital inner join test_report using(h_id) group by test_result having test_result= 'positive';
  return ans;
end | utf8mb4 | utf8mb4_0900_ai_ci |
+-----+-----+-----+
1 row in set (0.0010 sec)
MySQL localhost:33060+ ssl lab3 SQL >

```

- **Output:-**



```

MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > select positivecount();
+-----+
| positivecount() |
+-----+
| 5 |
+-----+
1 row in set (0.0073 sec)
MySQL localhost:33060+ ssl lab3 SQL >

```

10. Write a function to display the average days for the recovery of child, adults and senior citizen of a particular hospital.

- **Query:-**

Delimiter //;

Create procedure avgRecovery()

begin

select avg(discharge_date - reporting_date) as "Child" from patient inner join test_report using(p_id) where age<18;

select avg(discharge_date - reporting_date) as "Adult" from patient inner join test_report using(p_id) where age between 18 and 60;

```

select avg(discharge_date - reporting_date) as "Senior Citizen" from patient inner
join test_report using(p_id) where age>60;

end //

```

```

MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > show create procedure avgrecovery;

+-----+-----+-----+
| Procedure | sql_mode | Create Procedure |
+-----+-----+-----+
| character_set_client | collation_connection | Database Collation |
+-----+-----+-----+
| avgRecovery | STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' PROCEDURE 'avgRecovery'()
begin
select avg(discharge_date - reporting_date) as "Child" from patient inner join test_report using(p_id) where age<18;
select avg(discharge_date - reporting_date) as "Adult" from patient inner join test_report using(p_id) where age between 18 and 60;
select avg(discharge_date - reporting_date) as "Senior Citizen" from patient inner join test_report using(p_id) where age>60;
end | utf8mb4 | utf8mb4_0900_ai_ci | utf8mb4_0900_ai_ci |
+-----+-----+-----+
1 row in set (0.0006 sec)
MySQL localhost:33060+ ssl lab3 SQL >

```

- Output:-

```

MySQL Shell
MySQL localhost:33060+ ssl lab3 SQL > call avgrecovery();

+-----+
| Child |
+-----+
| 2558.2500 |
+-----+
1 row in set (0.0071 sec)

+-----+
| Adult |
+-----+
| 3378.0000 |
+-----+
1 row in set (0.0071 sec)

+-----+
| Senior Citizen |
+-----+
| 598.0000 |
+-----+
1 row in set (0.0071 sec)

Query OK, 0 rows affected (0.0071 sec)
MySQL localhost:33060+ ssl lab3 SQL >

```

THANK YOU!