

SQL Concepts & Fundamentals

All tables

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
Microsoft Windows [Version 10.0.19041.804]
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C:\Users\sai mani>cd c:/xampp/mysql/bin

c:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 12
Server version: 10.4.17-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> use student;
Database changed
MariaDB [student]> show tables;
+-----+
| Tables_in_student |
+-----+
| studentadmissionpayment |
| studentbasicinformation |
| studentsubjectinformation |
| subjectscholarshipinformation |
+-----+
4 rows in set (0.001 sec)

MariaDB [student]>
```

```
C:\WINDOWS\system32\cmd.exe - mysql -u root

+-----+
| Tables_in_student |
+-----+
| studentadmissionpayment |
| studentbasicinformation |
| studentsubjectinformation |
| subjectscholarshipinformation |
+-----+
4 rows in set (0.001 sec)

MariaDB [student]> select * from studentbasicinformation;
+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | DOB |
+-----+
| 160217733015 | mani | a | jgl | cse | 7893101565 | 02/07/2000 |
| 160217733014 | mahendra | r | mbnr | cse | 7123401565 | 12/07/2000 |
| 160217733007 | tharmayee | n | hyd | cse | 7111401565 | 05/11/2000 |
| 160217733037 | sairam | m | hyd | cse | 7331401565 | 20/01/2000 |
| 160217733042 | santosh | g | mgd | cse | 7999401565 | 20/09/2000 |
| 160217733045 | shiva | k | sypt | cse | 8989401565 | 20/09/1999 |
| 160217733036 | rama krishna | s | srcl | cse | 9999401565 | 30/09/1999 |
| 160217733011 | jagan | y | krnl | cse | 9991155666 | 01/01/1999 |
| 160217733009 | jagdish | j | wg | cse | 9991100066 | 01/01/1999 |
| 160217733001 | aishwarya | a | hyd | cse | 8881100066 | 11/08/2000 |
+-----+
10 rows in set (0.000 sec)

MariaDB [student]> select * from studentsubjectinformation;
+-----+
| StudentRollNo | SubjectOpted | SubjectTotalMarks | SubjectObtainedMarks | StudentMarksPercentage |
+-----+
| 160217733015 | abd | 100 | 99 | 0 |
| 160217733014 | dm | 100 | 80 | 0 |
| 160217733007 | abd | 100 | 99 | 0 |
| 160217733001 | dm | 100 | 50 | 0 |
| 160217733009 | dm | 100 | 70 | 0 |
| 160217733037 | dm | 100 | 80 | 0 |
| 160217733042 | dm | 100 | 90 | 0 |
| 160217733036 | abd | 100 | 69 | 0 |
| 160217733011 | abd | 100 | 89 | 0 |
| 160217733007 | abd | 100 | 88 | 0 |
+-----+
10 rows in set (0.001 sec)

MariaDB [student]>
```

```
C:\WINDOWS\system32\cmd.exe - mysql -u root

MariaDB [student]> select * from studentadmissionpayment;
+-----+-----+-----+
| StudentRollNo | AmountPaid | AmountBalance |
+-----+-----+-----+
| 160217733015 | 10000      | 10000          |
| 160217733014 | 9000       | 11000          |
| 160217733007 | 0          | 20000          |
| 160217733001 | 10000      | 10000          |
| 160217733009 | 9000       | 11000          |
| 160217733037 | 0          | 20000          |
| 160217733042 | 0          | 20000          |
| 160217733036 | 1000       | 19000          |
| 160217733011 | 0          | 20000          |
| 16021773307  | 20000      | 0              |
+-----+-----+-----+
10 rows in set (0.000 sec)

MariaDB [student]> select * from subjectscholarshipinformation;
+-----+-----+-----+-----+-----+-----+
| StudentRollNo | ScholarshipName | ScholarshipDescription | ScholarshipAmount | ScholarshipCategory | recieved |
+-----+-----+-----+-----+-----+-----+
| 160217733015 | college scho   | merit scholo         | 7000             | none               | no       |
| 160217733014 | college scho   | merit scholo         | 4000             | none               | yes      |
| 160217733011 | college scho   | merit scholo         | 9000             | none               | no       |
| 160217733045 | college scho   | merit scholo         | 11000            | none               | yes      |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.000 sec)

MariaDB [student]>
```

5. Update any 5 records of your choice in any table like update the StudentAddress with some other address content and likewise so on with any records of any table of your choice

```

C:\WINDOWS\system32\cmd.exe - mysql -u root

160217733009 | 9000 | 11000 |
160217733037 | 0 | 20000 |
160217733042 | 0 | 20000 |
160217733036 | 1000 | 19000 |
160217733011 | 0 | 20000 |
16021773307 | 20000 | 0 |
+-----+
10 rows in set (0.000 sec)

MariaDB [student]> select * from subjectscholarshipinformation;
+-----+
| StudentRollNo | ScholarshipName | ScholarshipDescription | ScholarshipAmount | ScholarshipCategory | recieved |
+-----+
| 160217733015 | college scho | merit scholo | 7000 | none | no |
| 160217733014 | college scho | merit scholo | 4000 | none | yes |
| 160217733011 | college scho | merit scholo | 9000 | none | no |
| 160217733045 | college scho | merit scholo | 11000 | none | yes |
+-----+
4 rows in set (0.000 sec)

MariaDB [student]> update studentbasicinformation set address='ptrm',phone_no='7095890086' where studentrollno='160217733015';
Query OK, 1 row affected (0.089 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [student]> update studentbasicinformation set address='gvk' where studentrollno='160217733045';
Query OK, 1 row affected (0.066 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [student]> update studentsubjectinformation set SubjectObtainedMarks='gvk' where studentrollno='160217733007';
Query OK, 1 row affected, 1 warning (0.088 sec)
Rows matched: 1 Changed: 1 Warnings: 1

MariaDB [student]> update studentsubjectinformation set SubjectObtainedMarks=89 where studentrollno='160217733007';
Query OK, 1 row affected (0.105 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [student]> update studentadmissionpayment set AmountPaid=5000 where studentrollno='160217733007';
Query OK, 1 row affected (0.093 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [student]> update subjectscholarshipinformation set recieved='yes' where studentrollno='160217733015';
Query OK, 1 row affected (0.096 sec)
Rows matched: 1 Changed: 1 Warnings: 0

```

6. Snap of the all the tables post updation

```

C:\WINDOWS\system32\cmd.exe - mysql -u root

MariaDB [student]> select * from studentbasicinformation;
+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | DOB |
+-----+
| 160217733015 | mani | a | ptrm | cse | 7095890086 | 02/07/2000 |
| 160217733014 | mahendra | r | mbnr | cse | 7123401565 | 12/07/2000 |
| 160217733037 | thanmayee | n | hyd | cse | 7111401565 | 05/11/2000 |
| 160217733037 | sairam | m | hyd | cse | 7331401565 | 20/01/2000 |
| 160217733042 | santosh | g | mgd | cse | 7090401565 | 20/09/2000 |
| 160217733045 | shiva | k | gvk | cse | 8980401565 | 20/09/1999 |
| 160217733036 | rama krishna | s | srcl | cse | 9990401565 | 30/09/1999 |
| 160217733011 | jagan | y | krnl | cse | 9991155666 | 01/01/1999 |
| 160217733009 | jagdesh | j | wg | cse | 9991100066 | 01/01/1999 |
| 160217733001 | aishwarya | a | hyd | cse | 8881100066 | 11/08/2000 |
+-----+
10 rows in set (0.001 sec)

MariaDB [student]> select * from studentsubjectinformation;
+-----+
| StudentRollNo | SubjectOpted | SubjectTotalMarks | SubjectObtainedMarks | StudentMarksPercentage |
+-----+
| 160217733015 | abd | 100 | 99 | 0 |
| 160217733014 | dm | 100 | 80 | 0 |
| 160217733007 | abd | 100 | 89 | 0 |
| 160217733001 | dm | 100 | 50 | 0 |
| 160217733009 | dm | 100 | 70 | 0 |
| 160217733037 | dm | 100 | 80 | 0 |
| 160217733042 | dm | 100 | 90 | 0 |
| 160217733036 | abd | 100 | 69 | 0 |
| 160217733011 | abd | 100 | 89 | 0 |
| 16021773307 | abd | 100 | 88 | 0 |
+-----+
10 rows in set (0.001 sec)

MariaDB [student]> select * from studentadmissionpayment;
+-----+
| StudentRollNo | AmountPaid | AmountBalance |
+-----+
| 160217733015 | 10000 | 10000 |
| 160217733014 | 9000 | 11000 |
| 160217733007 | 5000 | 20000 |
| 160217733001 | 10000 | 10000 |
| 160217733009 | 9000 | 11000 |
+-----+

```

```
C:\WINDOWS\system32\cmd.exe - mysql -u root

MariaDB [student]> select * from studentadmissionpayment;
+-----+-----+-----+
| StudentRollNo | AmountPaid | AmountBalance |
+-----+-----+-----+
| 160217733015 | 10000      | 10000          |
| 160217733014 | 9000       | 11000          |
| 160217733007 | 5000       | 20000          |
| 160217733001 | 10000      | 10000          |
| 160217733009 | 9000       | 11000          |
| 160217733027 | 0          | 20000          |
| 160217733042 | 0          | 20000          |
| 160217733036 | 1000       | 19000          |
| 160217733011 | 0          | 20000          |
| 160217733007 | 20000      | 0              |
+-----+-----+-----+
10 rows in set (0.000 sec)

MariaDB [student]> select * from subjectscholarshipinformation;
+-----+-----+-----+-----+-----+-----+
| StudentRollNo | ScholarshipName | ScholarshipDescription | ScholarshipAmount | ScholarshipCategory | recieved |
+-----+-----+-----+-----+-----+-----+
| 160217733015 | college scho   | merit scholo         | 7000             | none               | yes      |
| 160217733014 | college scho   | merit scholo         | 4000             | none               | yes      |
| 160217733011 | college scho   | merit scholo         | 9000             | none               | no       |
| 160217733045 | college scho   | merit scholo         | 11000            | none               | yes      |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.001 sec)

MariaDB [student]> _
```

7)Select the student details records who has received the scholarship more than 5000Rs/-

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
MariaDB [(none)]> use student;
Database changed
MariaDB [student]> select * from studentbasicinformation where studentrollno in (select studentrollno from subjectscholarshipinformation where recieved='yes' and ScholarshipAmount>5000);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near '>5000)' at line 1
MariaDB [student]> select * from studentbasicinformation where studentrollno in (select studentrollno from subjectscholarshipinformation where recieved='yes' and ScholarshipAmount>5000);
+-----+-----+-----+-----+-----+-----+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | DOB |
+-----+-----+-----+-----+-----+-----+-----+
| 160217733015 | mani | a | ptrm | cse | 7095890086 | 02/07/2000 |
| 160217733045 | shiva | k | gvk | cse | 8989401565 | 20/09/1999 |
+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [student]>
```

8. Select the students who opted for scholarship but has not got the scholarship

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
MariaDB [student]> select studentrollno,StudentName,StudentSurname,Phone_no where studentrollno not in (select studentrollno from subjectscholarshipinformation);
ERROR 1054 (42S22): Unknown column 'studentrollno' in 'field list'
MariaDB [student]> select studentrollno,StudentName,StudentSurname,Phone_no where studentrollno not in (select StudentRollNo from subjectscholarshipinformation);
ERROR 1054 (42S22): Unknown column 'studentrollno' in 'field list'
MariaDB [student]> select studentrollno,StudentName,StudentSurname,Phone_no from studentbasicinformation where studentrollno not in (select StudentRollNo from subjectscholarshipinformation);
+-----+-----+-----+-----+
| studentrollno | StudentName | StudentSurname | Phone_no |
+-----+-----+-----+-----+
| 160217733307 | thanmayee | n | 7111401565 |
| 160217733037 | sairam | m | 7331401565 |
| 160217733042 | santosh | g | 7999401565 |
| 160217733036 | rama krishna | s | 9999401565 |
| 160217733009 | jagdesh | j | 9991100066 |
| 160217733001 | aishwarya | a | 8881100066 |
+-----+-----+-----+-----+
6 rows in set (0.001 sec)

MariaDB [student]>
```

9. Fill in data for the percentage column i.e. StudentMarksPercentage in the table StudentSubjectInformation by creating and using the stored procedure created

Procedure

```
Command Prompt - mysql -u root

C:\Users\sai mani>cd c:/xampp/mysql/bin

c:\xampp\mysql\bin>mysql -u root
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 16
Server version: 10.4.17-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> use student;
Database changed
MariaDB [student]> show create procedure updatepercentage;
+-----+-----+-----+-----+-----+-----+
| Procedure | sql_mode | Create Procedure | character_set_client | collation_connection | Database Collation |
+-----+-----+-----+-----+-----+-----+
| updatepercentage | NO_ZERO_IN_DATE,NO_ZERO_DATE,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' PROCEDURE `updatepercentage`()
begin
update studentsubjectinformation set StudentMarksPercentage=SubjectObtainedMarks*100/SubjectTotalMarks;
end | cp850 | cp850_general_ci | utf8mb4_general_ci |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.016 sec)

MariaDB [student]>
```

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
MariaDB [student]> DELIMITER ;
MariaDB [student]> CALL simpleproc(@a);
```

StudentRollNo	SubjectOpted	SubjectTotalMarks	SubjectObtainedMarks	StudentMarksPercentage
160217733015	abd	100	99	99
160217733014	dm	100	80	80
160217733007	abd	100	89	89
160217733001	dm	100	50	50
160217733009	dm	100	70	70
160217733037	dm	100	80	80
160217733042	dm	100	90	90
160217733036	abd	100	69	69
160217733011	abd	100	89	89
160217733007	abd	100	88	88

```
10 rows in set (0.001 sec)

Query OK, 0 rows affected (0.046 sec)

MariaDB [student]> DELIMITER ;
MariaDB [student]> CALL updatepercentage();
Query OK, 9 rows affected (0.113 sec)

MariaDB [student]> select * from StudentMarksPercentage;
ERROR 1146 (42S02): Table 'student.studentmarkspercentage' doesn't exist
MariaDB [student]> select * from studentsubjectinformation;
```

StudentRollNo	SubjectOpted	SubjectTotalMarks	SubjectObtainedMarks	StudentMarksPercentage
160217733015	abd	100	99	99
160217733014	dm	100	80	80
160217733007	abd	100	89	89
160217733001	dm	100	50	50
160217733009	dm	100	70	70
160217733037	dm	100	80	80
160217733042	dm	100	90	90
160217733036	abd	100	69	69
160217733011	abd	100	89	89
160217733007	abd	100	88	88

```
10 rows in set (0.001 sec)

MariaDB [student]>
```

10. Decide the category of the scholarship depending upon the marks/percentage obtained by the student and likewise update the ScholarshipCategory column, create a stored procedure in order to handle this operation

```

C:\WINDOWS\system32\cmd.exe - mysql -u root
-> //
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near '/' at line 1
MariaDB [student]> CREATE or replace PROCEDURE scholarshipcategoryupdating()
-> begin
-> update subjectscholarshipinformation inner join studentsubjectinformation on studentsubjectinformation.studentrollno=subjectscholarshipinformation.studentrollno
set ScholarshipCategory= case when studentsubjectinformation.StudentMarksPercentage<70 then 'D' when studentsubjectinformation.StudentMarksPercentage<80 then 'C' when s
studentsubjectinformation.StudentMarksPercentage<90 then 'B' else 'A' end;
-> end;
-> //
Query OK, 0 rows affected (0.203 sec)

MariaDB [student]> delimiter ;
-> call scholarshipcategoryupdating();
-> //
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'delimiter ;
call scholarshipcategoryupdating()' at line 1
MariaDB [student]> DELIMITER ;
MariaDB [student]> CALL scholarshipcategoryupdating();
Query OK, 0 rows affected (0.001 sec)

MariaDB [student]> select * from subjectscholarshipinformation;
+-----+-----+-----+-----+-----+-----+
| StudentRollNo | ScholarshipName | ScholarshipDescription | ScholarshipAmount | ScholarshipCategory | recieved |
+-----+-----+-----+-----+-----+-----+
| 160217733015 | college scho | merit scholo | 7000 | A | yes |
| 160217733014 | college scho | merit scholo | 4000 | B | yes |
| 160217733011 | college scho | merit scholo | 9000 | B | no |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.000 sec)

MariaDB [student]>

```

11. Create the View which shows balance amount to be paid by the student along with the student detailed information (use join)

```

C:\WINDOWS\system32\cmd.exe - mysql -u root
3 rows in set (0.000 sec)

MariaDB [student]> create view balanceamountlist as select studentrollno,StudentName,StudentSurname,address,Branch,Phone_no,AmountBalance from studentbasicinformation i
inner join studentadmissionpayment on studentadmissionpayment.studentrollno=studentbasicinformation.studentrollno;
ERROR 1052 (23000): Column 'studentrollno' in field list is ambiguous
MariaDB [student]> create view balanceamountlist as select studentadmissionpayment.studentrollno,StudentName,StudentSurname,address,Branch,Phone_no,AmountBalance from s
tudentbasicinformation inner join studentadmissionpayment on studentadmissionpayment.studentrollno=studentbasicinformation.studentrollno;
Query OK, 0 rows affected (0.119 sec)

MariaDB [student]> select * from balanceamountlist;
+-----+-----+-----+-----+-----+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | AmountBalance |
+-----+-----+-----+-----+-----+-----+
| 160217733015 | mani | a | ptrm | cse | 7095890086 | 10000 |
| 160217733014 | mahendra | r | mbnr | cse | 7123401565 | 11000 |
| 160217733001 | aishwarya | a | hyd | cse | 8881100066 | 10000 |
| 160217733009 | jagdish | j | wg | cse | 9991100066 | 11000 |
| 160217733037 | sairam | m | hyd | cse | 7331401565 | 20000 |
| 160217733042 | santosh | g | mgd | cse | 7999401565 | 20000 |
| 160217733036 | rama krishna | s | src1 | cse | 9999401565 | 19000 |
| 160217733011 | jagan | y | knrl | cse | 9991155666 | 20000 |
| 160217733007 | thanmayee | n | hyd | cse | 7111401565 | 0 |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.001 sec)

MariaDB [student]>

```


12. Get the details of the students who haven't got any scholarship (use joins/subqueries)

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
9 rows in set (0.001 sec)

MariaDB [student]> select * from studentbasicinformation where studentrollno not in (select studentrollno from subjectscholarshipinformation);
```

studentrollno	StudentName	StudentSurname	address	Branch	Phone_no	DOB
160217733307	thanmayee	n	hyd	cse	7111401565	05/11/2000
1602177333037	sairam	m	hyd	cse	7331401565	20/01/2000
1602177333042	santosh	g	mgd	cse	7999401565	20/09/2000
1602177333045	shiva	k	gvl	cse	8989401565	20/09/1999
1602177333036	rama krishna	s	src1	cse	9999401565	30/09/1999
1602177333009	jagadesh	j	wg	cse	9991100066	01/01/1999
1602177333001	aishwarya	a	hyd	cse	8881100066	11/08/2000

```
7 rows in set (0.001 sec)

MariaDB [student]> _
```

13. Create Stored Procedure which will be return the amount balance to be paid by the student as per the student roll number passed through the stored procedure as the input

procedure and call are below =>

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
7 rows in set (0.001 sec)

MariaDB [student]> DELIMITER //
MariaDB [student]> CREATE PROCEDURE getbalanceamount(id varchar(12))
--> begin
--> select studentrollno,AmountBalance from studentadmissionpayment where studentrollno=id;
--> end;
--> //
Query OK, 0 rows affected (0.177 sec)

MariaDB [student]> DELIMITER ;
MariaDB [student]> CALL getbalanceamount('160217733015');
+-----+-----+
| studentrollno | AmountBalance |
+-----+-----+
| 160217733015  | 10000         |
+-----+-----+
1 row in set (0.002 sec)

Query OK, 0 rows affected (0.008 sec)

MariaDB [student]>
```

14. Retrieve the top five student details as per the StudentMarksPercentage values (use subqueries)

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
+-----+-----+
| balanceamountlist |
| studentadmissionpayment |
| studentbasicinformation |
| studentsubjectinformation |
| subjectscholarshipinformation |
+-----+-----+
5 rows in set (0.001 sec)

MariaDB [student]> SELECT * FROM studentsubjectinformation ORDER by StudentMarksPercentage desc LIMIT 5;
+-----+-----+-----+-----+-----+
| StudentRollNo | SubjectOpted | SubjectTotalMarks | SubjectObtainedMarks | StudentMarksPercentage |
+-----+-----+-----+-----+-----+
| 160217733015  | abd         | 100               | 99                   | 99                     |
| 160217733042  | dm          | 100               | 90                   | 90                     |
| 160217733007  | abd         | 100               | 89                   | 89                     |
| 160217733011  | abd         | 100               | 89                   | 89                     |
| 160217733007  | abd         | 100               | 88                   | 88                     |
+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [student]>
```

15. Try to use all the three types of join learned today in a relevant way, and explain the same why you thought of using that particular join for your selected scenarios (try to cover relevant and real time scenarios for all the three studied joins)

types of joins

inner join returns those records which have matching values in both tables.

Full Outer Join returns all those records which either have a match in the left or the right table

Left outer join return all records from left table and matched record from right table

Right outer join return all records from Right table and matched record from left table

Students with scholarship;(right outer join)

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
MariaDB [student]> select * from studentbasicinformation right join subjectscholarshipinformation on subjectscholarshipinformation.studentrollno=studentbasicinformation.studentrollno;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | DOB | StudentRollNo | ScholarshipName | ScholarshipDescription | ScholarshipAmou |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 160217733015 | mani | a | ptrm | cse | 7095890086 | 02/07/2000 | 160217733015 | college scho | merit scholo | 70 |
| 160217733014 | mahendra | r | mbnr | cse | 7123401565 | 12/07/2000 | 160217733014 | college scho | merit scholo | 40 |
| 160217733011 | jagan | y | krnl | cse | 9991155666 | 01/01/1999 | 160217733011 | college scho | merit scholo | 90 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [student]>
```

Payment seat students;(_innerjoin)

```

C:\WINDOWS\system32\cmd.exe - mysql -u root
100 rows in set (0.002 sec)

MariaDB [student]> select * from studentbasicinformation inner join studentadmissionpayment on studentadmissionpayment.studentrollno=studentbasicinformation.studentrollno;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | DOB | StudentRollNo | AmountPaid | AmountBalance |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 160217733015 | mani | a | ptrm | cse | 7095890086 | 02/07/2000 | 160217733015 | 10000 | 10000 |
| 160217733014 | mahendra | r | mbnr | cse | 7123401565 | 12/07/2000 | 160217733014 | 9000 | 11000 |
| 160217733001 | aishwarya | a | hyd | cse | 8881100066 | 11/08/2000 | 160217733001 | 10000 | 10000 |
| 160217733009 | jagdesh | j | wg | cse | 9991100066 | 01/01/1999 | 160217733009 | 9000 | 11000 |
| 160217733037 | sairam | m | hyd | cse | 7331401565 | 20/01/2000 | 160217733037 | 0 | 20000 |
| 160217733042 | santosh | g | mgd | cse | 7999401565 | 20/09/2000 | 160217733042 | 0 | 20000 |
| 160217733036 | rama krishna | s | src1 | cse | 9999401565 | 30/09/1999 | 160217733036 | 1000 | 19000 |
| 160217733011 | jagan | y | krnl | cse | 9991155666 | 01/01/1999 | 160217733011 | 0 | 20000 |
| 160217733307 | thammayee | n | hyd | cse | 7111401565 | 05/11/2000 | 160217733307 | 20000 | 0 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
9 rows in set (0.003 sec)

MariaDB [student]> select * from studentbasicinformation right join subjectscholarshipinformation on subjectscholarshipinformation.studentrollno=studentbasicinformation.studentrollno;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | DOB | StudentRollNo | ScholarshipName | ScholarshipDescription | ScholarshipAmount | ScholarshipCategory | recieved |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 160217733015 | mani | a | ptrm | cse | 7095890086 | 02/07/2000 | 160217733015 | college scho | merit scholo | | 70 |
| 160217733014 | mahendra | r | mbnr | cse | 7123401565 | 12/07/2000 | 160217733014 | college scho | merit scholo | | 40 |
| 160217733011 | jagan | y | krnl | cse | 9991155666 | 01/01/1999 | 160217733011 | college scho | merit scholo | | 90 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [student]> select * from studentbasicinformation left join subjectscholarshipinformation on subjectscholarshipinformation.studentrollno=studentbasicinformation.studentrollno;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| studentrollno | StudentName | StudentSurname | address | Branch | Phone_no | DOB | StudentRollNo | ScholarshipName | ScholarshipDescription | ScholarshipAmount | ScholarshipCategory | recieved |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

16. Mention the differences between the delete, drop and truncate commands

Ans)

delete will delete particular tuple as per the given condition

drop will delete the entire table including attributes

truncate will delete the entire table entries(insertions) but not attributes(columns)

17. Get the count of the Scholarship category which is highly been availed by the students, i.e. get the count of the total number of students corresponding to the each scholarships category

```

Command Prompt - mysql -u root
5 rows in set (0.001 sec)

MariaDB [student]> select count(studentrollno) as c,scholarshipcategory from subjectscholarshipinformation group by scholarshipcategory;
+-----+-----+
| c | scholarshipcategory |
+-----+-----+
| 1 | A |
| 2 | B |
+-----+-----+
2 rows in set (0.001 sec)

MariaDB [student]>

```

18. Along with the assignment no. 17 try to retrieve the maximum used scholarship category

```

C:\WINDOWS\system32\cmd.exe - mysql -u root

+-----+-----+-----+-----+-----+
| 160217733015 | abd | 100 | 99 | 99 |
| 160217733042 | dm | 100 | 90 | 90 |
| 160217733007 | abd | 100 | 89 | 89 |
| 160217733011 | abd | 100 | 89 | 89 |
| 160217733007 | abd | 100 | 88 | 88 |
+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [student]> SELECT MAX(c) FROM (SELECT COUNT(studentrollno) as c FROM subjectscholarshipinformation GROUP BY ScholarshipCategory) as temp;
+-----+
| MAX(c) |
+-----+
| 2 |
+-----+
1 row in set (0.001 sec)

MariaDB [student]> SELECT MAX(c),ScholarshipCategory FROM (SELECT COUNT(studentrollno) as c,ScholarshipCategory FROM subjectscholarshipinformation GROUP BY ScholarshipCategory) as temp
->
ERROR 1054 (42S22): Unknown column 'studentrollno' in 'field list'
MariaDB [student]> SELECT MAX(c),ScholarshipCategory FROM (SELECT COUNT(studentrollno) as c,ScholarshipCategory FROM subjectscholarshipinformation GROUP BY ScholarshipCategory) as temp
->
+-----+-----+
| MAX(c) | ScholarshipCategory |
+-----+-----+
| 2 | A |
+-----+-----+
1 row in set (0.001 sec)

MariaDB [student]>

```

19. Retrieve the percentage of the students along with students detailed information who has scored the highest

percentage along with availing the maximum scholarship amount

```
C:\WINDOWS\system32\cmd.exe - mysql -u root
MariaDB [student]> select Studentrollno,StudentMarksPercentage from studentsubjectinformation where StudentMarksPercentage=(select max(StudentMarksPercentage) from studentsubjectinformation);
+-----+-----+
| Studentrollno | StudentMarksPercentage |
+-----+-----+
| 160217733015 | 99 |
+-----+-----+
1 row in set (0.000 sec)

MariaDB [student]>
```

Actually I tried

Query

select

a.studentrollno,a.StudentName,a.StudentSurname,a.address,
a.Branch,a.Phone_no,a.DOB,b.StudentMarksPercentage,c.ScholarshipAmount from studentbasicinformation
a,studentsubjectinformation b,subjectscholarshipinformation
c where a.studentrollno=b.studentrollno and
b.studentrollno=c.studentrollno and studentrollno=(select
studentrollno from studentsubjectinformation where
StudentMarksPercentage=(select
max(StudentMarksPercentage) from
studentsubjectinformation));

but because of different unmatching information(I gave
different inputs in both the tables) it gave 0 rows as input;

20. Difference between the Triggers, Stored Procedures, Views and Functions

Ans)

Function is a set of sql queries where clubbed to do a specific task and when u want to do same task again we can just call the function instead of calling all sql queries again and again

Trigger is similar to functions but its automatically get called for give conditions for some modifications happen in table

view is similar to table which will be created without using extra storage and created only what is needed and it is also gives security to table which we extracted view from.