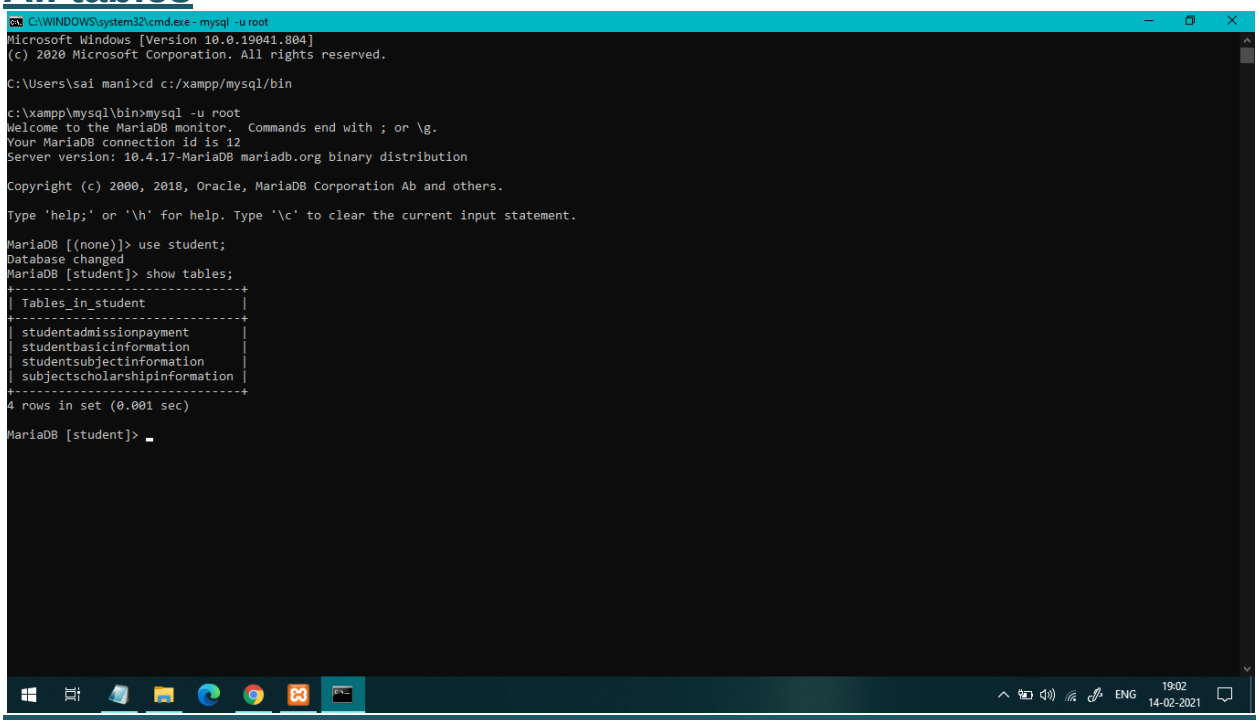
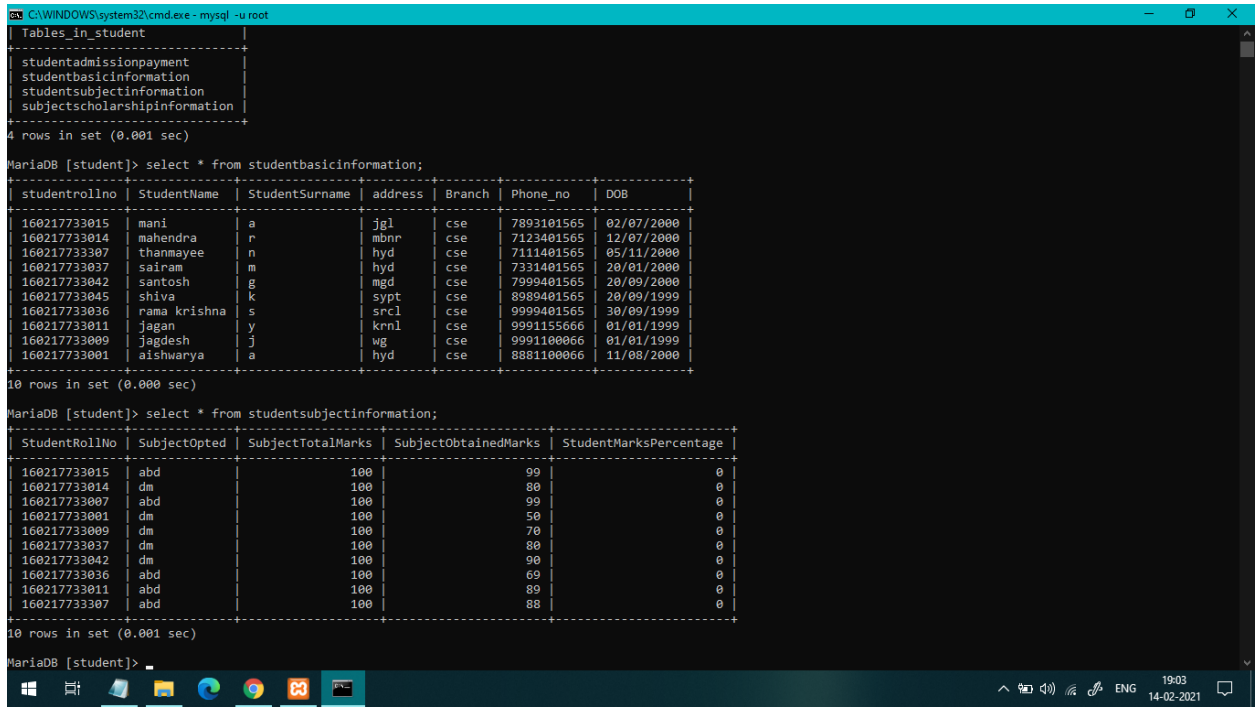
# SQL Concepts & Fundamentals

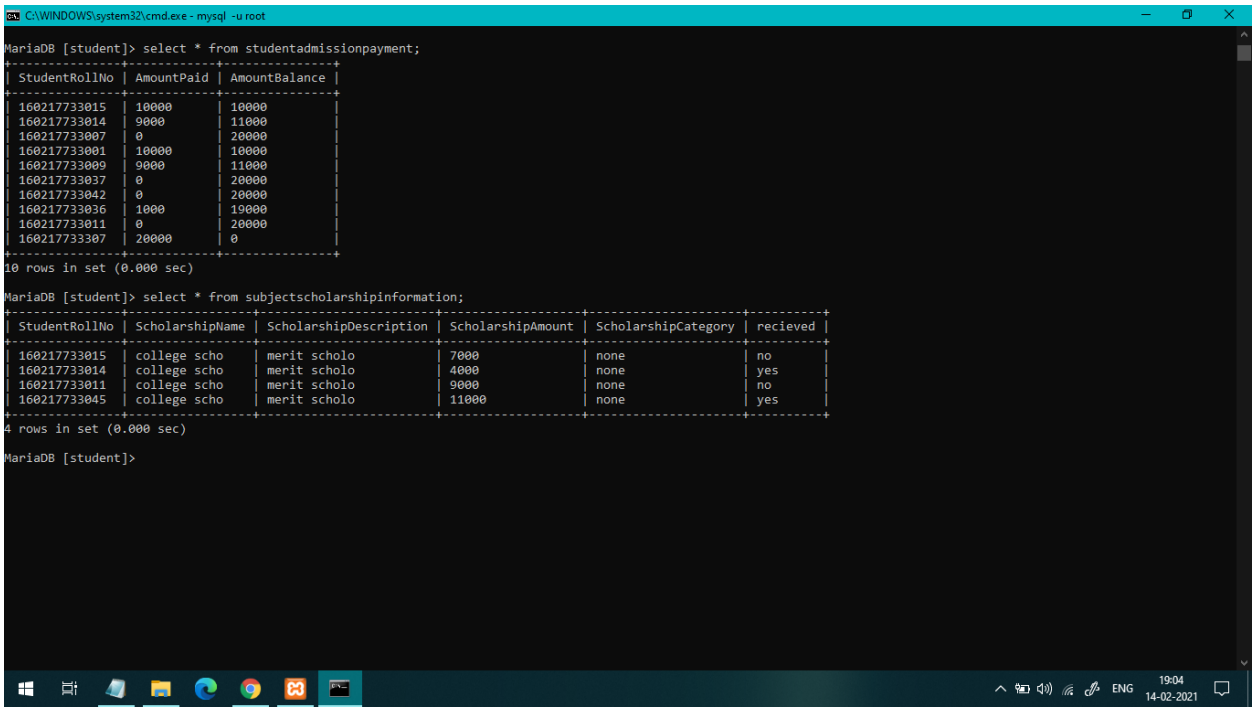
## All tables



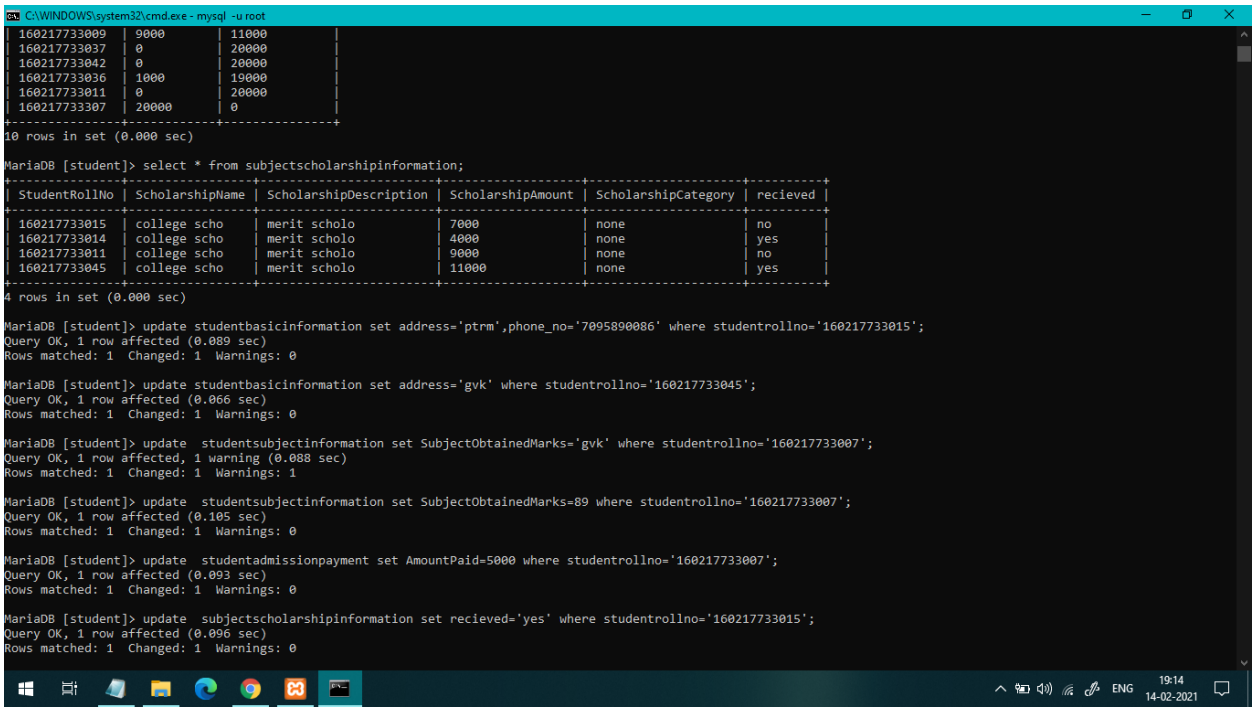
```
C:\WINDOWS\system32\cmd.exe - mysql  -u root
Microsoft Windows [Version 10.0.19041.804]
(c) 2020 Microsoft Corporation. All rights reserved.

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]>
```



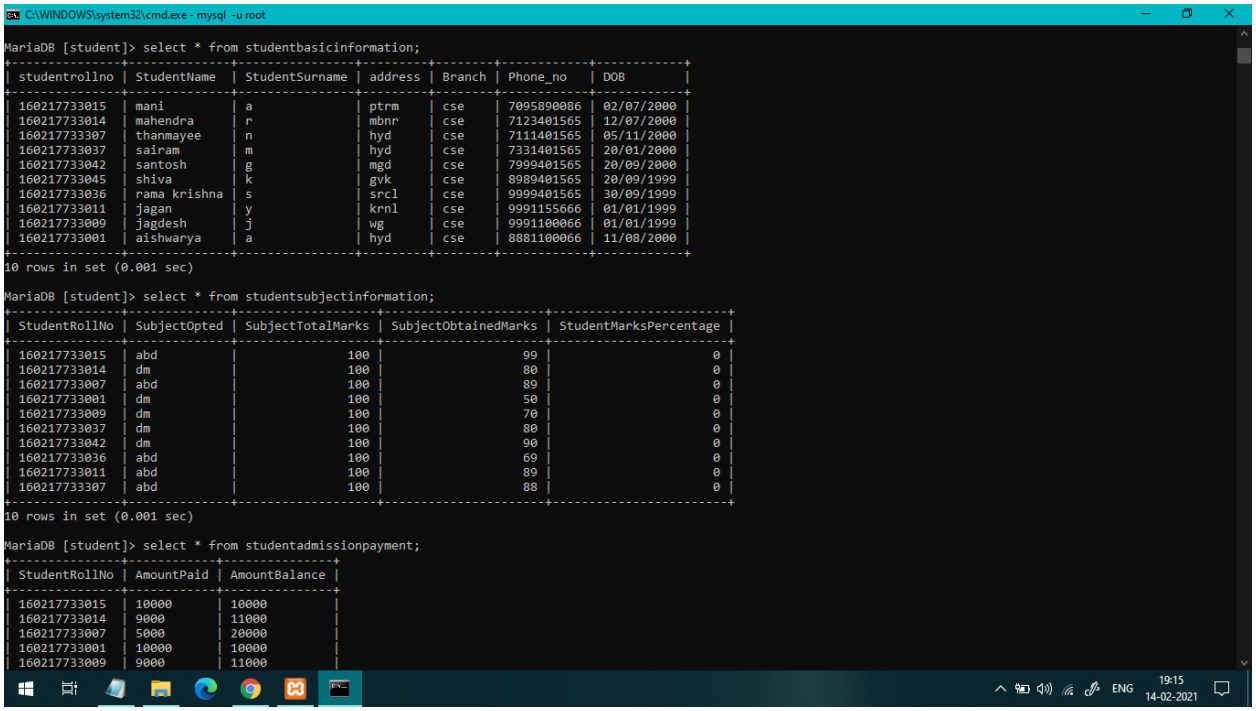
```
C:\WINDOWS\system32\cmd.exe - mysql  -u root
| Tables_in_student            |
+------------------------------+
| studentadmissionpayment      |
| studentbasicinformation      |
| studentsubjectinformation    |
| subjectscholarshipinformation |
+------------------------------+
4 rows in set (0.001 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 |
| 160217733307  | thanmayee   | 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  | jagdesh     | 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 |
| 160217733307 | abd         |              100 |                 88 |                    0 |
+--------------+-------------+------------------+--------------------+----------------------+
10 rows in set (0.001 sec)

MariaDB [student]>
```

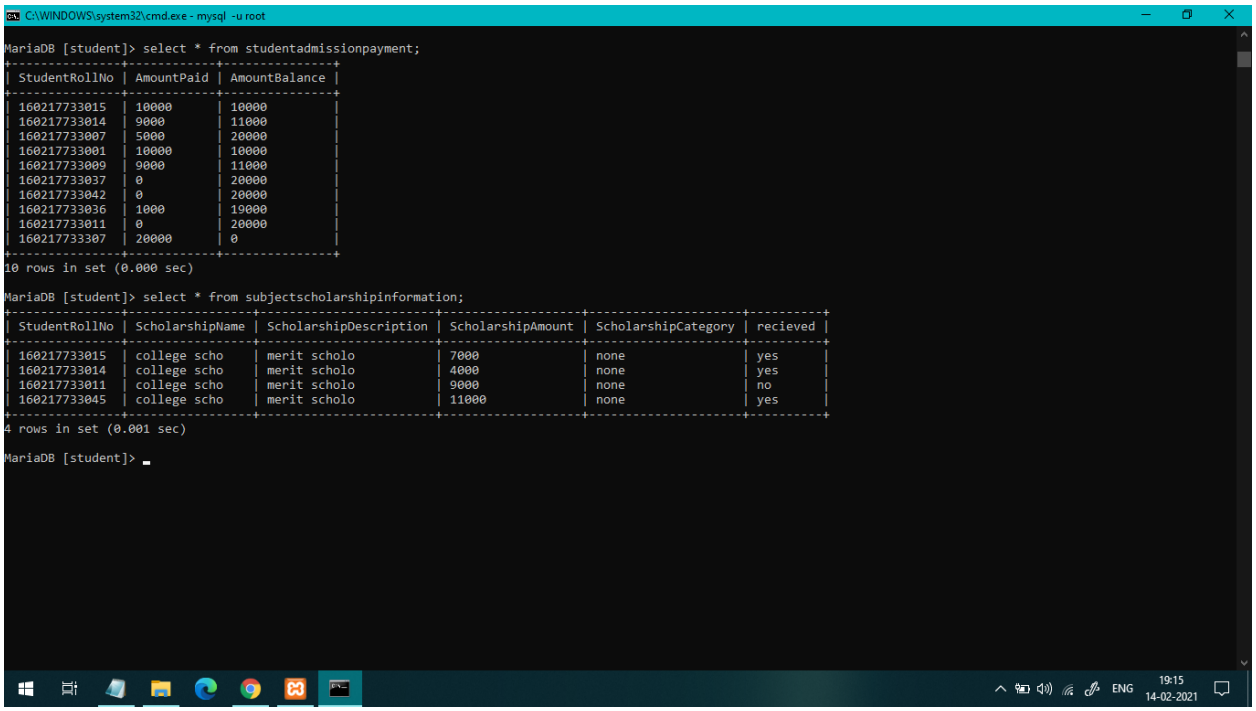



## 5. Update any 5 records of your choice in any table like update the StudentAddress with some other address content and likewise so on with any records of any table of your choice

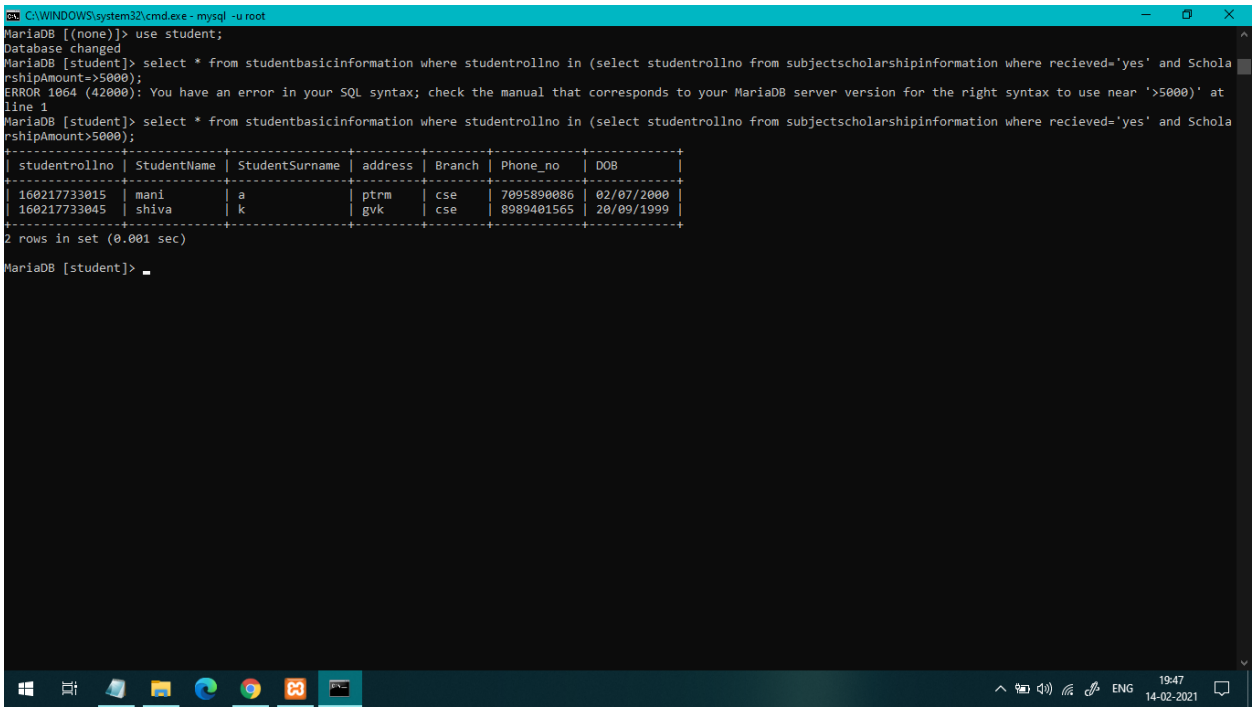



## 6. Snap of the all the tables post updation

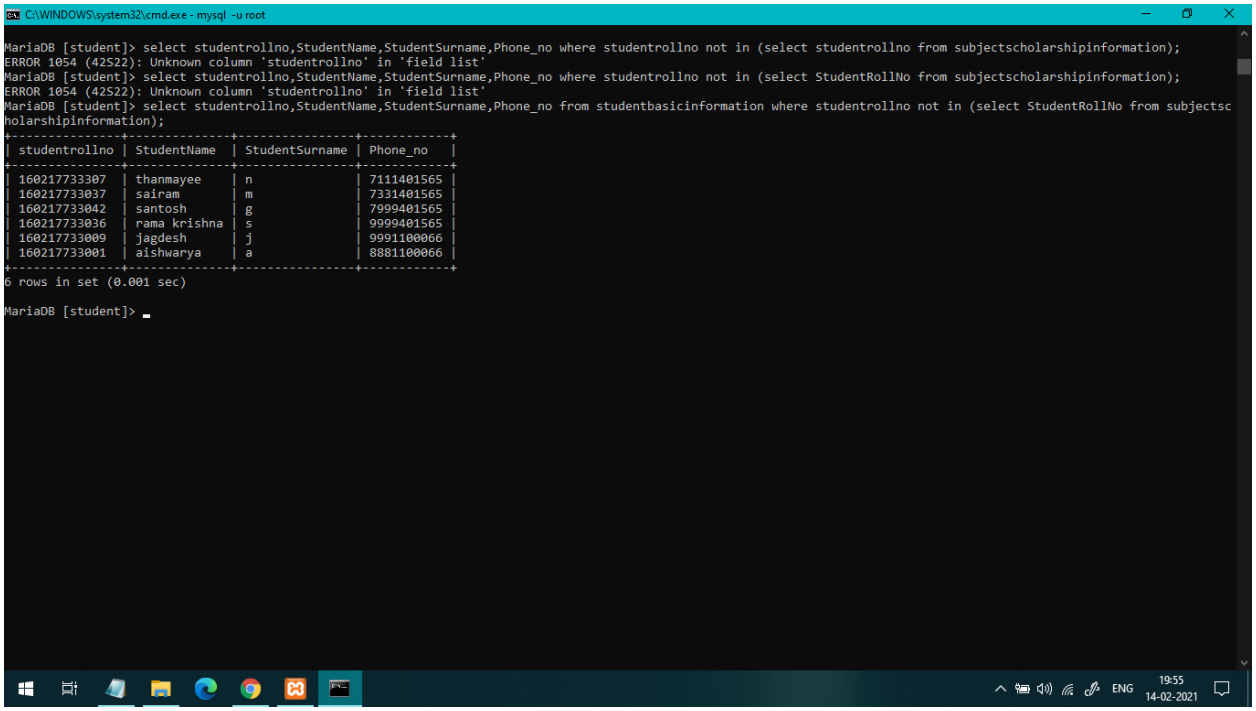





## 7)Select the student details records who has received the scholarship more than 5000Rs/-

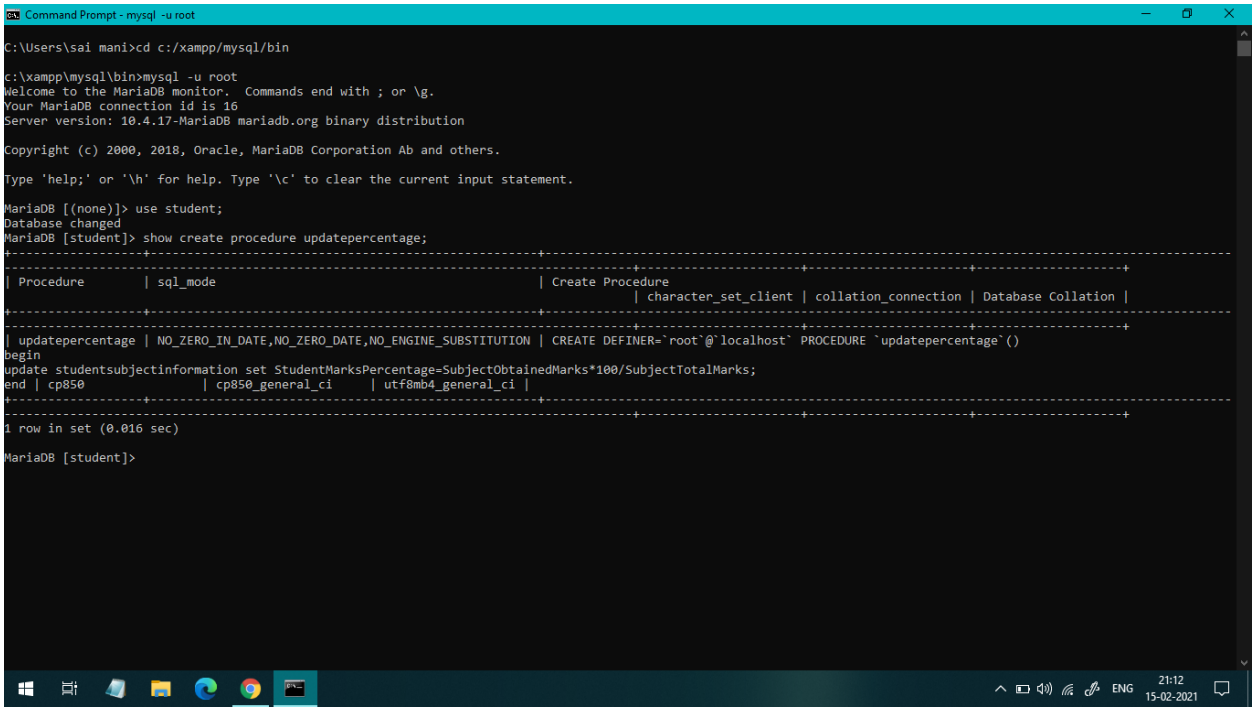


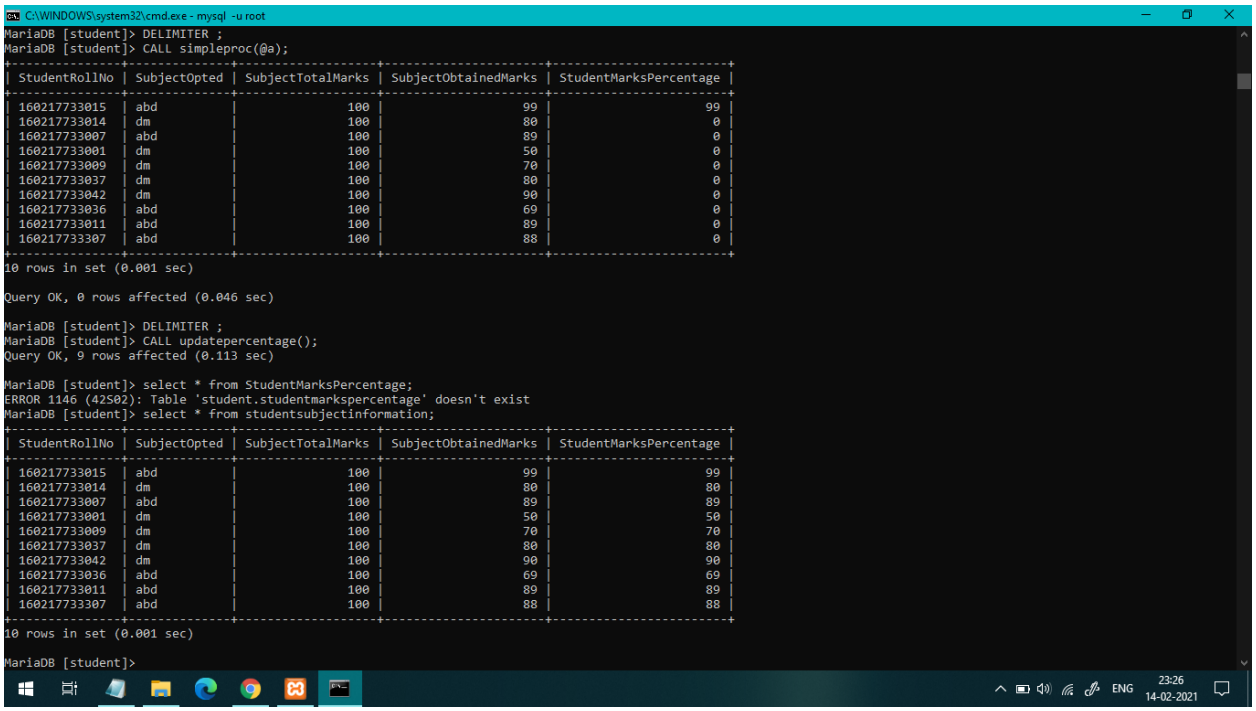

## 8. Select the students who opted for scholarship but has not got the scholarship



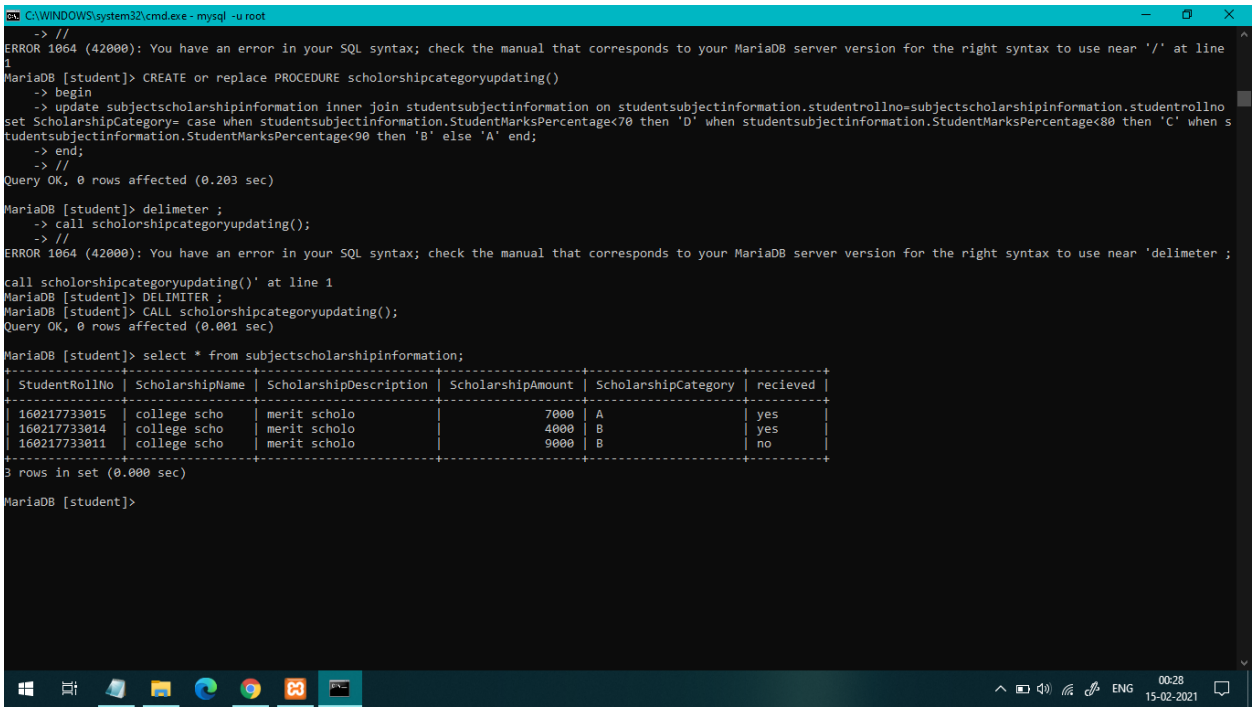
## 9. Fill in data for the percentage column i.e. StudentMarksPercentage in the table StudentSubjectInformation by creating and using the stored procedure created

## Procedure

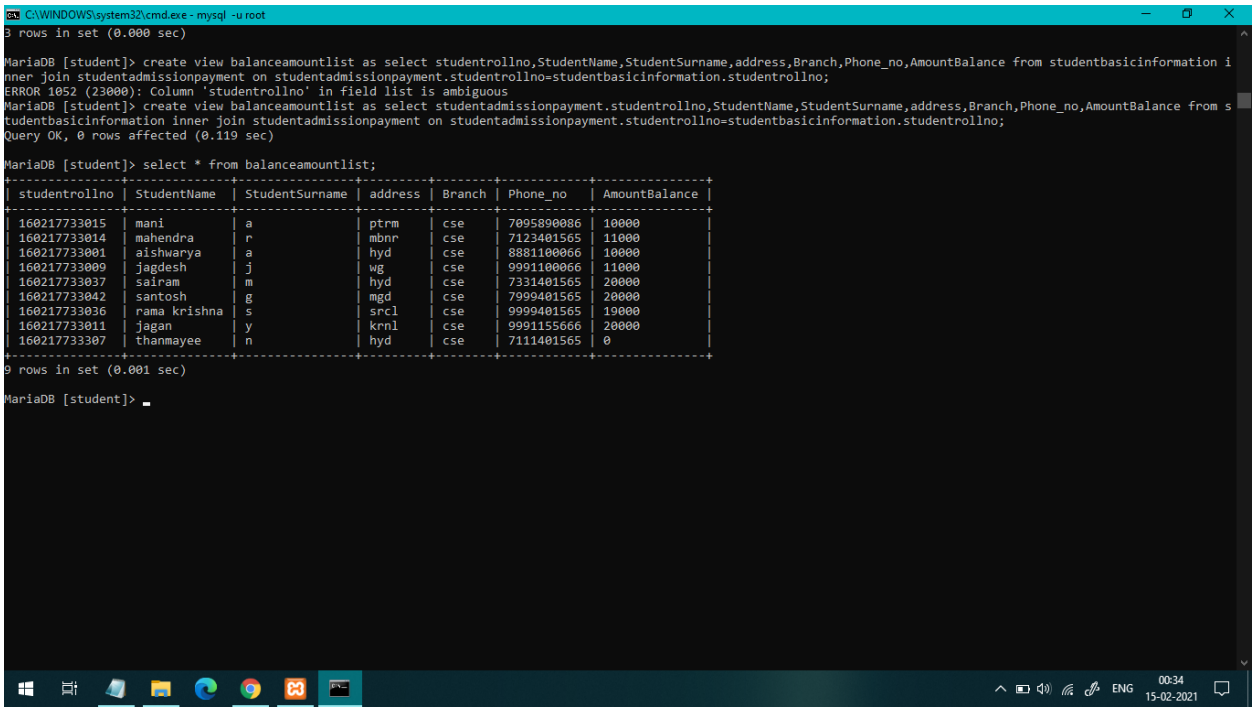




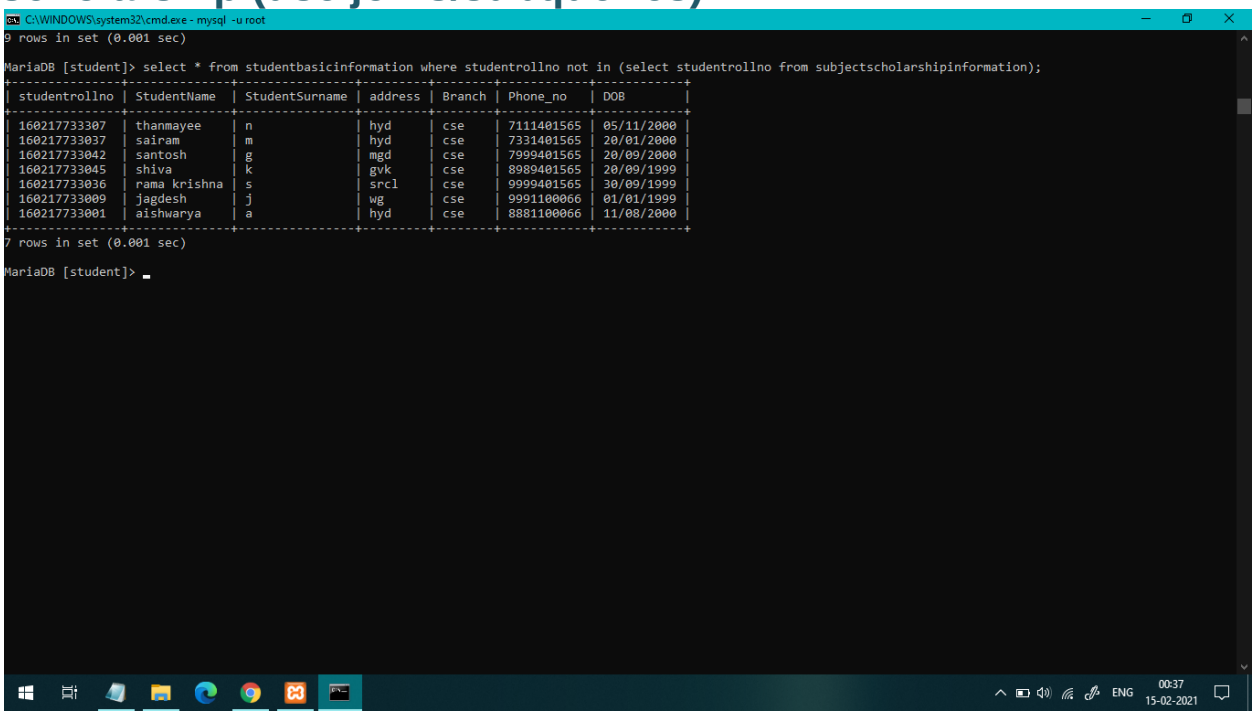

## 10. Decide the category of the scholarship depending upon the marks/percentage obtained by the student and likewise update the ScholarshipCategory column, create a stored procedure in order to handle this operation




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

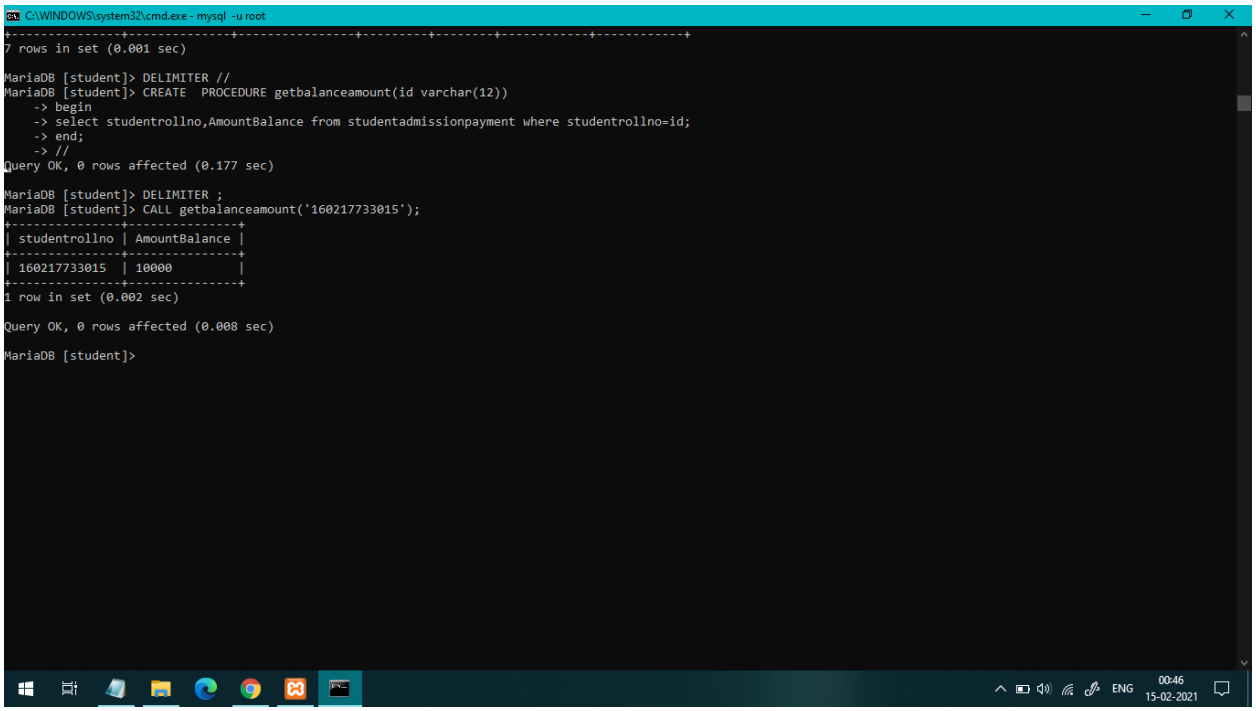


## 12. Get the details of the students who haven’t got any scholarship (use joins/subqueries)

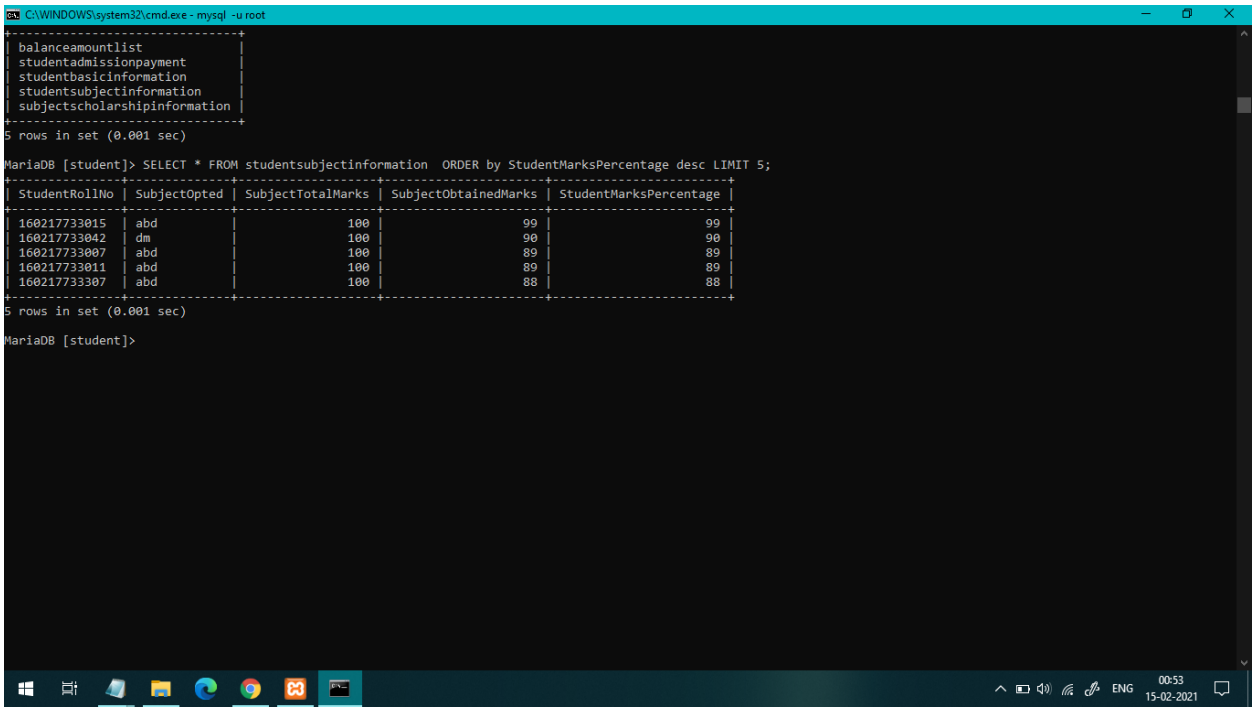



## 13. Create Stored Procedure which will be return the amount balance to be paid by the student as per the student roll number passed through the stored procedure as the input

## procedure and call are below =>




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



## 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

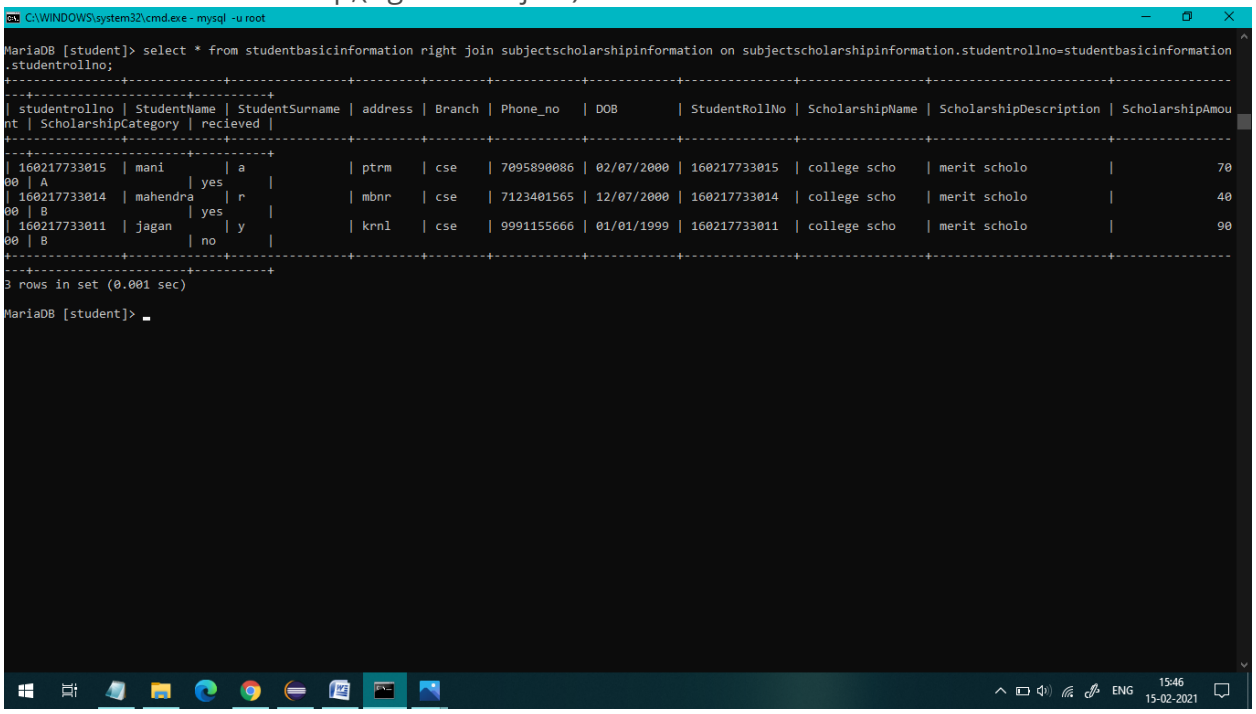
inner join returns those records which have matching values in both tables.

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

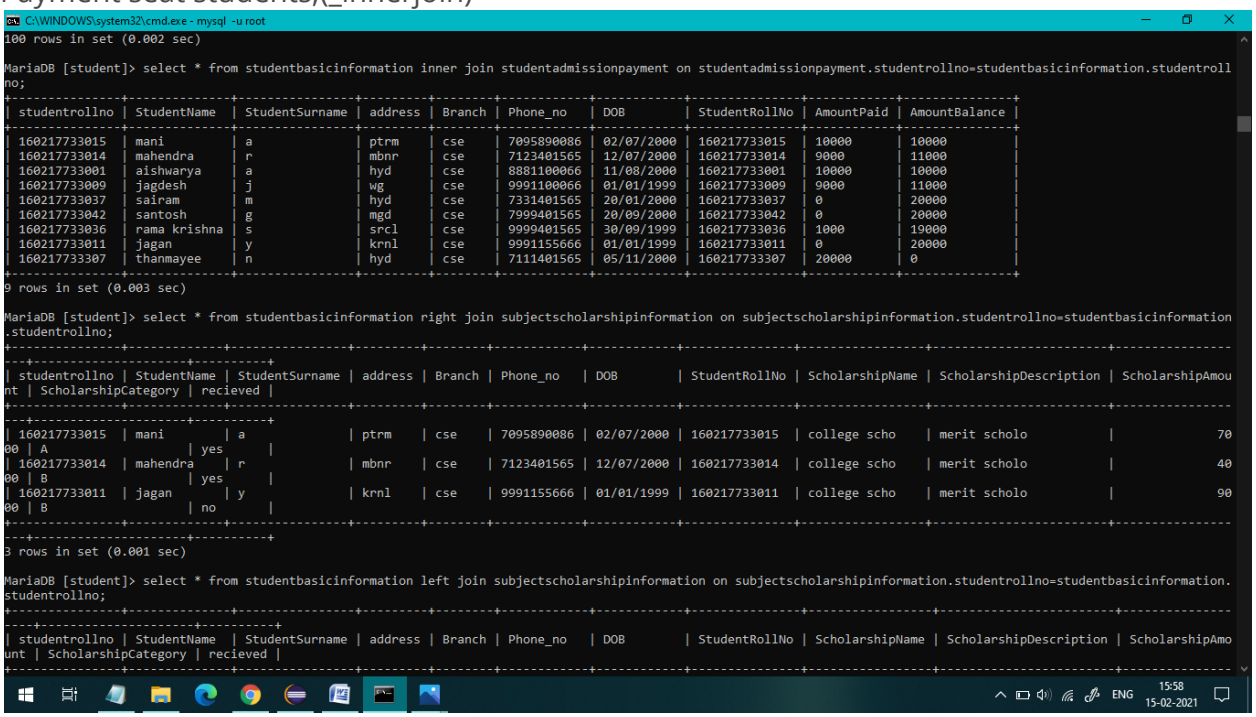
Left  outer join return all records from left  table and matched record from right table

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

Students with scholarship;(right outer join)



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.studentroll
no;
+--------------+-------------+----------------+---------+--------+------------+------------+--------------+------------+---------------+
| 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              | srcl    | cse    | 9999401565 | 30/09/1999 | 160217733036  | 1000       | 19000         |
| 160217733011  | jagan        | y              | krnl    | cse    | 9991155666 | 01/01/1999 | 160217733011  | 0          | 20000         |
| 160217733307  | thanmayee    | 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 | ScholarshipAmou
nt | ScholarshipCategory | recieved |
+--------------+-------------+----------------+---------+--------+------------+------------+--------------+----------------+-----------------------+---------------
---+--------------------+----------+
| 160217733015  | mani        | a              | ptrm    | cse    | 7095890086 | 02/07/2000 | 160217733015  | college scho    | merit scholo           |             70
00 | A                  | yes      |
| 160217733014  | mahendra    | r              | mbnr    | cse    | 7123401565 | 12/07/2000 | 160217733014  | college scho    | merit scholo           |             40
00 | B                  | yes      |
| 160217733011  | jagan       | y              | krnl    | cse    | 9991155666 | 01/01/1999 | 160217733011  | college scho    | merit scholo           |             90
00 | B                  | no       |
+--------------+-------------+----------------+---------+--------+------------+------------+--------------+----------------+-----------------------+---------------
---+--------------------+----------+
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 | ScholarshipAmo
unt | ScholarshipCategory | recieved |
+--------------+-------------+----------------+---------+--------+------------+------------+--------------+----------------+-----------------------+---------------
```



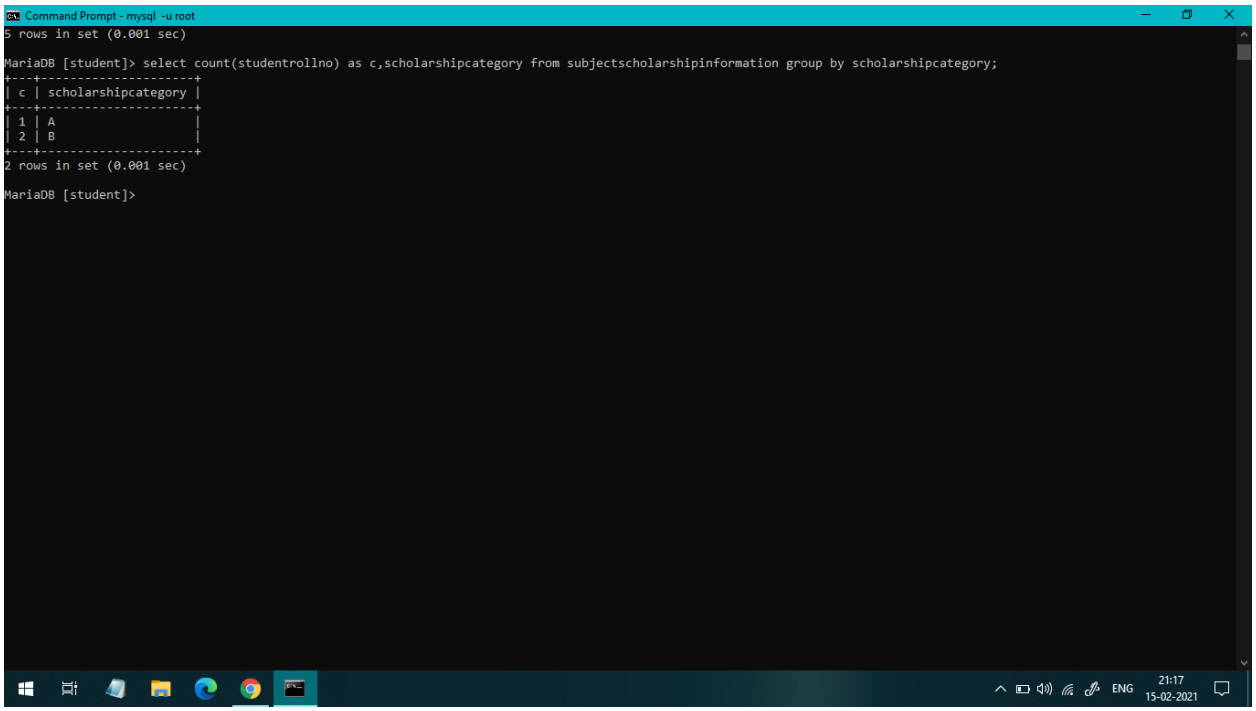
## 16. Mention the differences between the delete, drop and truncate commands

## Ans)
## delete will paticular tuple as per the given condition

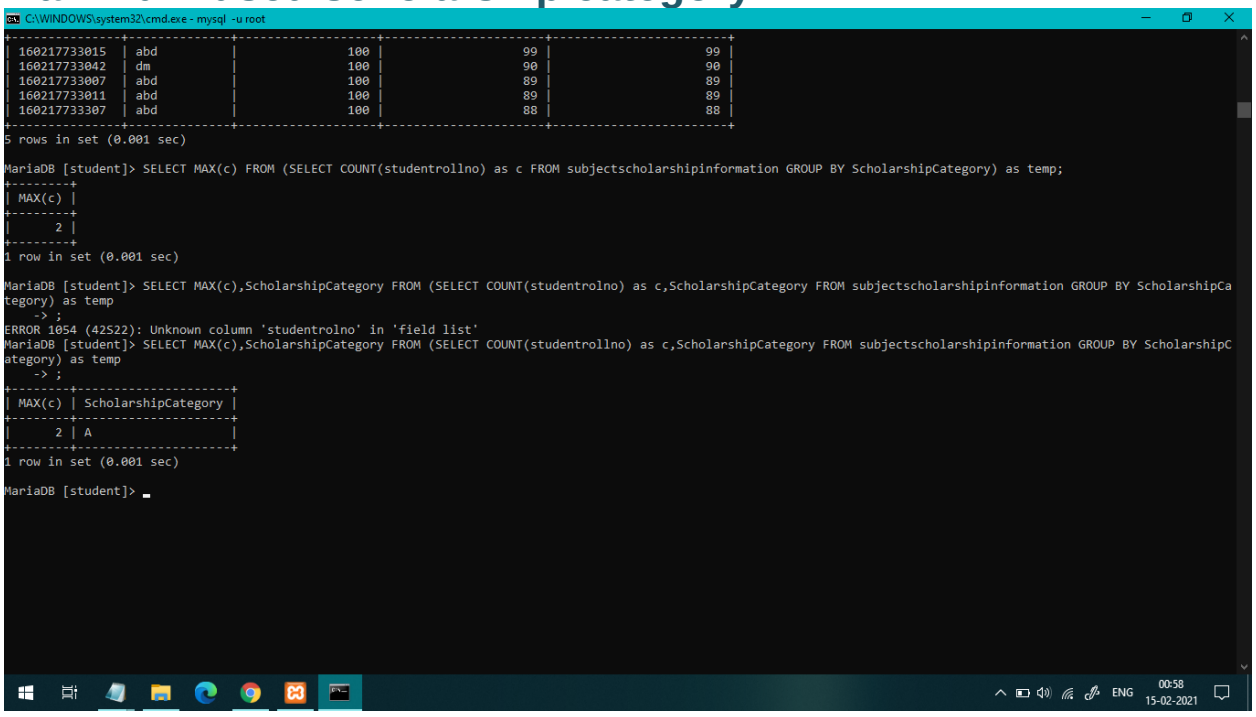
## drop will delete the entire table includiing attributes

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

## 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

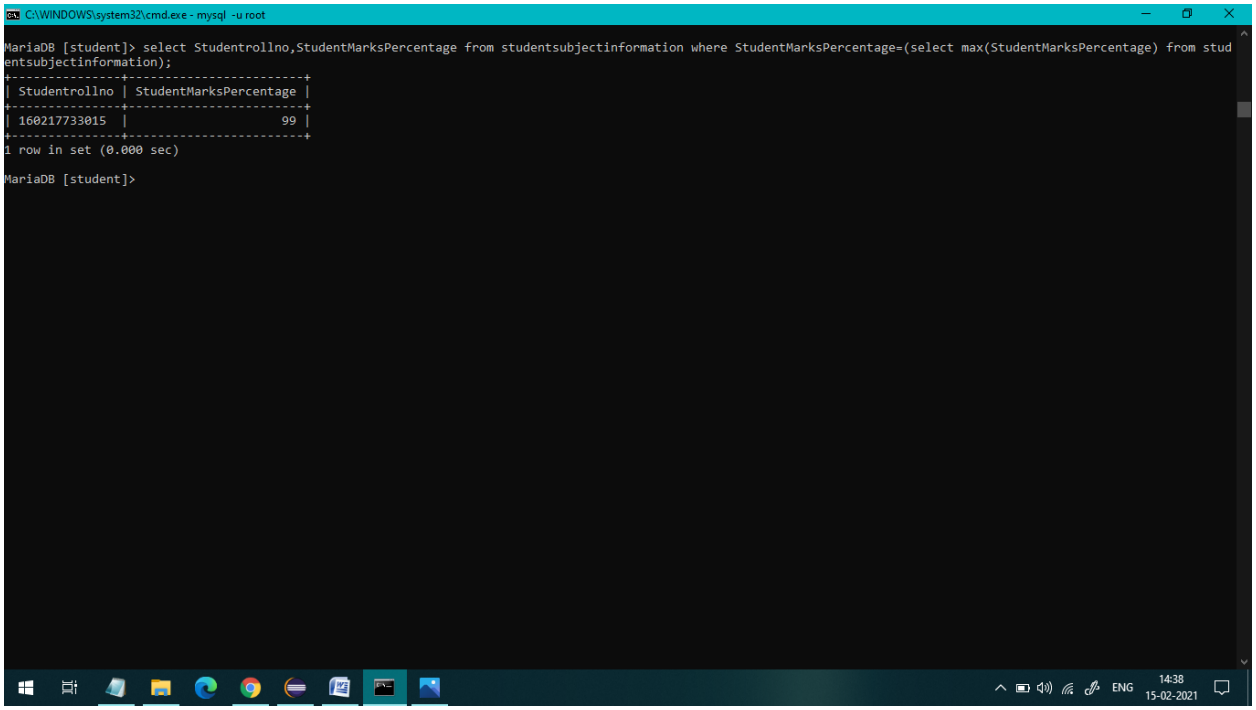



## 18. Along with the assignment no. 17 try to retrieve the maximum used scholarship category




## 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**




**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 diffenent 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.**