

## Prior Instructions

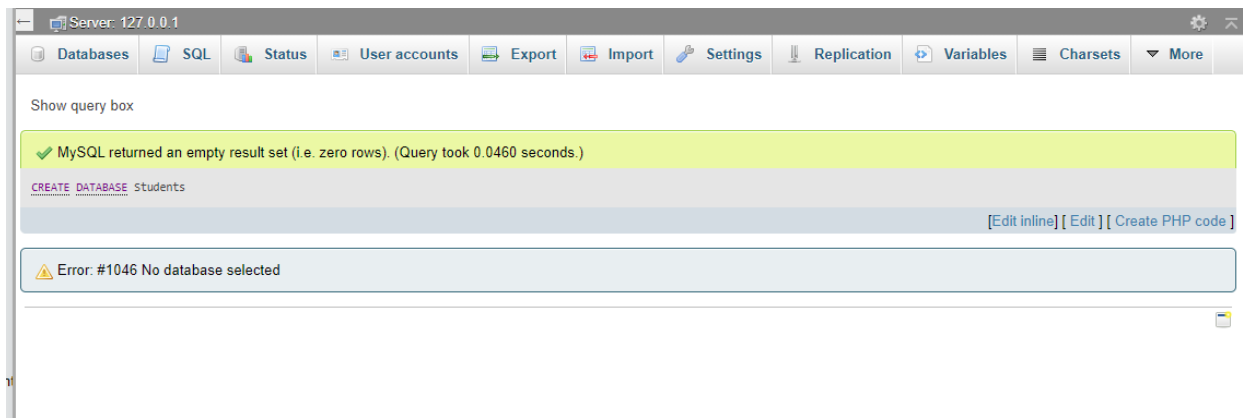
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- **Please do read all the questions before performing any operations in the database**
  - **Once you have fully gone through the questions then likewise decide the contents and table columns and follow the below instructions**
- 

1. Create Student Database

### Solution:-

create database Student;



2. Create the following table under the Student Database:
  - a. StudentBasicInformation
    - i. Columns
      1. StudentName
      2. StudentSurname
      3. StudentRollNo
      4. StudentAddress
      5. Add more three basic columns of the name of your own
    - b. StudentAdmissionPaymentDetails
      - i. Columns
        1. StudentRollNo
        2. AmountPaid
        3. AmountBalance
        4. Add more four basic columns of the name of your own
      - c. StudentSubjectInformation
        - i. Columns
          1. SubjectOpted
          2. StudentRollNo

3. SubjectTotalMarks
4. SubjectObtainedMarks
5. StudentMarksPercentage
6. Add more one columns of the name of your own
- d. SubjectScholarshipInformation

i. Columns

1. StudentRollNo
2. ScholarshipName
3. ScholarshipDescription
4. ScholarshipAmount
5. ScholarshipCategory
6. Add more two columns of the name of your own

**Solution:-**

a)

create table StudentBasicInformation( StudentName varchar(25), StudentSurname varchar(25), StudentRollNo int primary key, StudentAddress varchar(30), StudentPhoneNumber bigint, StudentGender varchar(10), StudentBloodGroup varchar(3));

The screenshot shows the phpMyAdmin interface for a database named 'student'. The table 'studentbasicinformation' is selected, and its structure is displayed in 'Table structure' view. The table has 7 columns: StudentName, StudentSurname, StudentRollNo, StudentAddress, StudentPhoneNumber, StudentGender, and StudentBloodGroup. StudentRollNo is the primary key.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	StudentName	varchar(25)	utf8mb4_general_ci		Yes	NULL			Change Drop More
2	StudentSurname	varchar(25)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	StudentRollNo	int(11)			No	None			Change Drop More
4	StudentAddress	varchar(30)	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	StudentPhoneNumber	int(11)			Yes	NULL			Change Drop More
6	StudentGender	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More
7	StudentBloodGroup	varchar(3)	utf8mb4_general_ci		Yes	NULL			Change Drop More

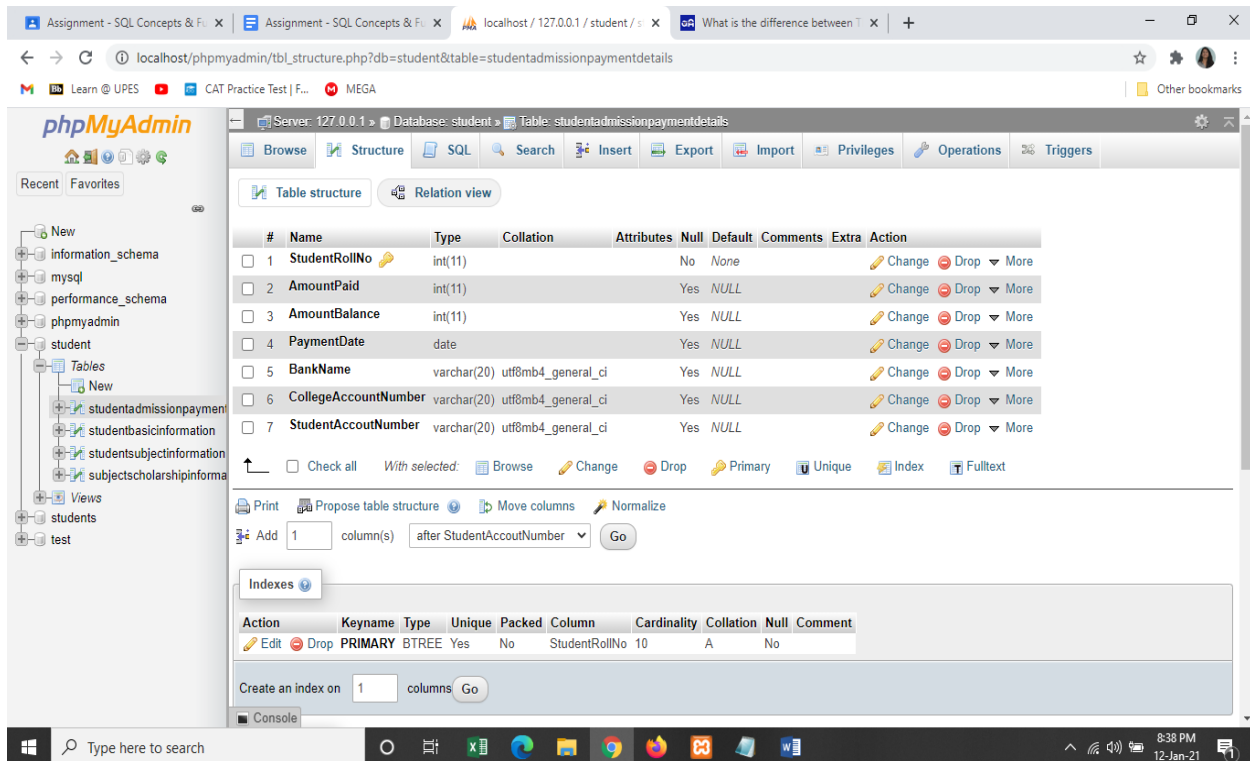
Below the table structure, there is a section for 'Indexes'. It shows a primary index on 'StudentRollNo'.

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Drop	PRIMARY	BTREE	Yes	No	StudentRollNo	10	A	No	

At the bottom, there is a form to 'Create an index on' with a dropdown for '1' column(s) and a 'Go' button.

b)

create table StudentAdmissionPaymentDetails ( StudentRollNo int primary key, AmountPaid int, AmountBalance int, PaymentDate date, BankName varchar(20), CollegeAccountNumber varchar(20), StudentAccountNumber varchar(20) ,foreign key(StudentRollNo) references StudentBasicInformation(StudentRollNo));



c)

create table StudentSubjectInformation ( SubjectOpted varchar(10), StudentRollNo int , SubjectTotalMarks int, SubjectObtainedMarks int, StudentMarksPercentage int, StudentGrade varchar(2), foreign key(StudentRollNo) references StudentBasicInformation(StudentRollNo));

Server: 127.0.0.1 » Database: student » Table: studentsubjectinformation

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	SubjectOpted	varchar(30)	utf8mb4_general_ci		Yes	NULL			Change Drop More
2	StudentRollNo	int(11)			No	None			Change Drop More
3	StudentTotalMarks	int(11)			Yes	NULL			Change Drop More
4	StudentMarksObtained	int(11)			Yes	NULL			Change Drop More
5	StudentMarksPercentage	float			Yes	NULL			Change Drop More
6	GradeObtained	char(1)	utf8mb4_general_ci		Yes	NULL			Change Drop More

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Drop	PRIMARY	BTREE	Yes	No	StudentRollNo	10	A	No	

Create an index on 1 column(s) Go

d)

create table StudentScholarshipInformation( StudentRollNo int, ScholarshipName varchar(30), ScholarshipName varchar(50), ScholarshipDescription varchar(100), ScholarshipAmount int, ScholarshipCategory varchar(10), ScholarshipExpiryDate date, StudentSchlarshipValidity int,foreign key(StudentRollNo) references StudentBasicInformation(StudentRollNo));

Server: 127.0.0.1 » Database: student » Table: subjectscholarshipinformation

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	StudentRollNo	int(11)			No	None			Change Drop More
2	StudentName	varchar(30)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	ScholarshipName	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change Drop More
4	ScholarshipDescription	varchar(100)	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	ScholarshipAmount	int(11)			Yes	NULL			Change Drop More
6	ScholarshipCategory	varchar(30)	utf8mb4_general_ci		Yes	NULL			Change Drop More
7	ScholarshipExpiryDate	date			Yes	NULL			Change Drop More

Indexes

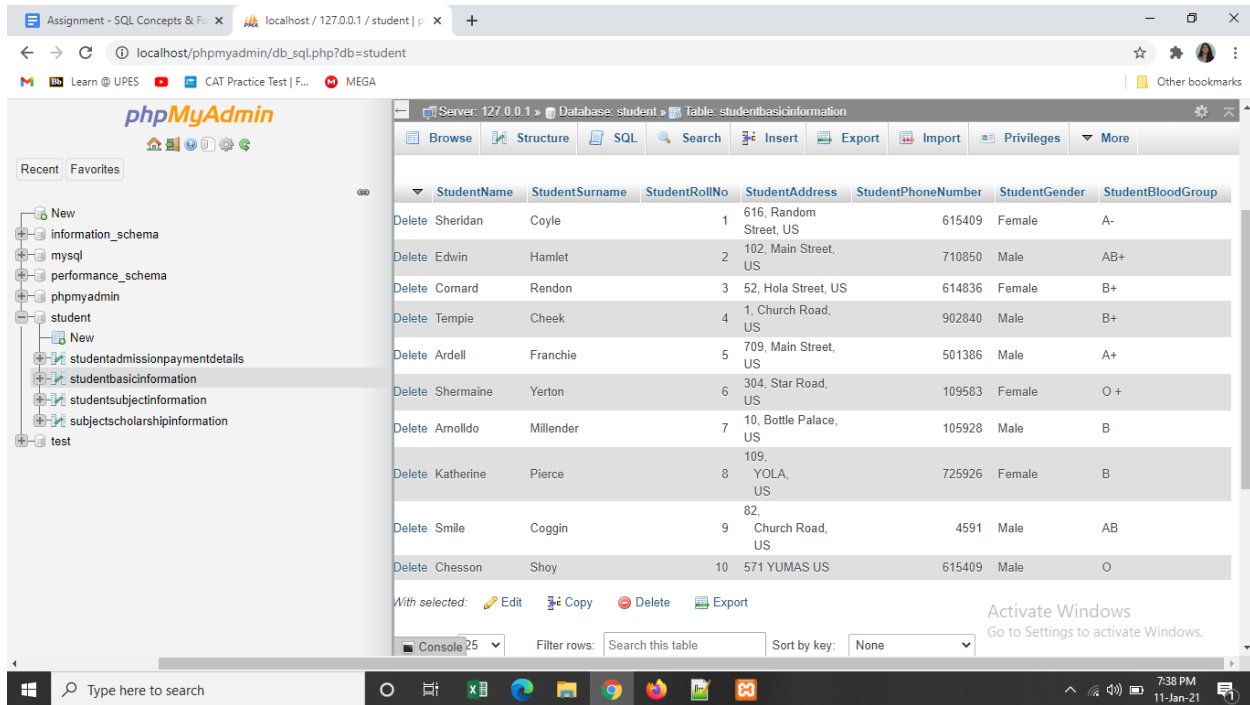
Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Drop	PRIMARY	BTREE	Yes	No	StudentRollNo	10	A	No	

Create an index on 1 column(s) Go

3. Insert more than 10 records in each and every table created
4. Snap of the all the tables once the insertion is completed

**Solution:-**

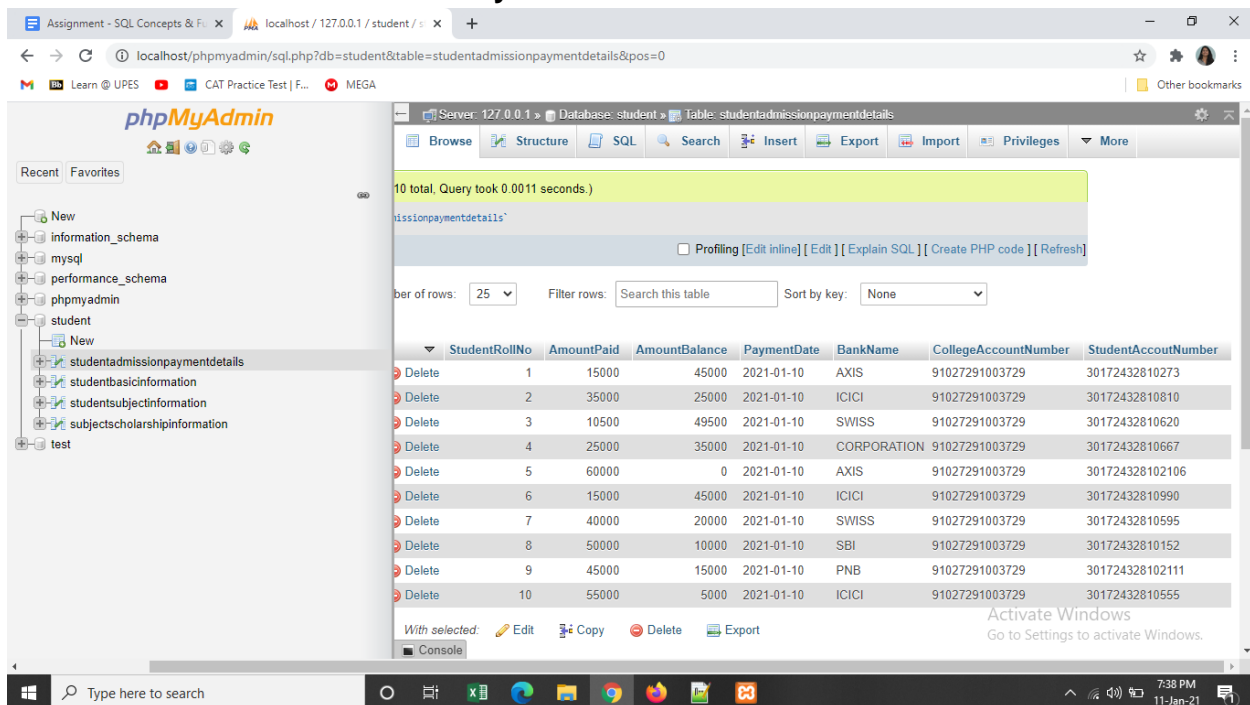
### Table Name:- StudentBasicInformation



The screenshot shows the phpMyAdmin interface for the 'student' database. The 'studentbasicinformation' table is selected, displaying 10 records. The table structure includes columns for StudentName, StudentSurname, StudentRollNo, StudentAddress, StudentPhoneNumber, StudentGender, and StudentBloodGroup. The records are as follows:

	StudentName	StudentSurname	StudentRollNo	StudentAddress	StudentPhoneNumber	StudentGender	StudentBloodGroup
Delete	Sheridan	Coyle	1	616, Random Street, US	615409	Female	A-
Delete	Edwin	Hamlet	2	102, Main Street, US	710850	Male	AB+
Delete	Comard	Rendon	3	52, Hola Street, US	614836	Female	B+
Delete	Temple	Cheek	4	1, Church Road, US	902840	Male	B+
Delete	Ardell	Franchie	5	709, Main Street, US	501386	Male	A+
Delete	Shermaine	Yerton	6	304, Star Road, US	109583	Female	O +
Delete	Arnoldo	Millender	7	10, Bottle Palace, US	105928	Male	B
Delete	Katherine	Pierce	8	109, YOLA, US	725926	Female	B
Delete	Smile	Coggin	9	82, Church Road, US	4591	Male	AB
Delete	Chesson	Shoy	10	571 YUMAS US	615409	Male	O

### Table Name:- StudentAdmissionPaymentDetails



The screenshot shows the phpMyAdmin interface for the 'student' database. The 'studentadmissionpaymentdetails' table is selected, displaying 10 records. The table structure includes columns for StudentRollNo, AmountPaid, AmountBalance, PaymentDate, BankName, CollegeAccountNumber, and StudentAccountNumber. The records are as follows:

	StudentRollNo	AmountPaid	AmountBalance	PaymentDate	BankName	CollegeAccountNumber	StudentAccountNumber
Delete	1	15000	45000	2021-01-10	AXIS	91027291003729	30172432810273
Delete	2	35000	25000	2021-01-10	ICICI	91027291003729	30172432810810
Delete	3	10500	49500	2021-01-10	SWISS	91027291003729	30172432810620
Delete	4	25000	35000	2021-01-10	CORPORATION	91027291003729	30172432810667
Delete	5	60000	0	2021-01-10	AXIS	91027291003729	301724328102106
Delete	6	15000	45000	2021-01-10	ICICI	91027291003729	30172432810990
Delete	7	40000	20000	2021-01-10	SWISS	91027291003729	30172432810595
Delete	8	50000	10000	2021-01-10	SBI	91027291003729	30172432810152
Delete	9	45000	15000	2021-01-10	PNB	91027291003729	301724328102111
Delete	10	55000	5000	2021-01-10	ICICI	91027291003729	30172432810555

## Table Name:- StudentSubjectInformation

The screenshot shows the phpMyAdmin interface with the 'student' database selected. The 'studentsubjectinformation' table is displayed, showing 10 rows of data. The table has columns: SubjectOpted, StudentRollNo, StudentTotalMarks, StudentMarksObtained, StudentMarksPercentage, and GradeObtained. The data is as follows:

SubjectOpted	StudentRollNo	StudentTotalMarks	StudentMarksObtained	StudentMarksPercentage	GradeObtained
Physics	1	100	90	90	A
Chemistry	2	100	85	85	B
Computer	3	100	82	82	B
Biology	4	100	20	20	F
Physics	5	100	100	100	O
Mathematics	6	100	73	73	B
Economics	7	100	91	91	A
Commerce	8	100	45	45	E
English	9	100	63	63	D
Mathematics	10	100	99	99	A

## Table Name:- StudentScholarshipInformation

The screenshot shows the phpMyAdmin interface with the 'student' database selected. The 'studentscholarshipinformation' table is displayed, showing 8 rows of data. The table has columns: RollNo, StudentName, ScholarshipName, ScholarshipDescription, ScholarshipAmount, ScholarshipCategory, and ScholarshipExpiryDate. The data is as follows:

RollNo	StudentName	ScholarshipName	ScholarshipDescription	ScholarshipAmount	ScholarshipCategory	ScholarshipExpiryDate
1	Sheridan Coyle	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
2	Edwin Hamlet	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
3	Comard Rendon	Paradigm Challenge	The Paradigm Challenge is open to students up to t...	2000	Teenager	2025-01-01
4	Temple Cheek	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
5	Ardell Franchie	Paradigm Challenge	The Paradigm Challenge is open to students up to t...	2000	Teenager	2025-01-01
6	Shermaine Yerton	Paradigm Challenge	The Paradigm Challenge is open to students up to t...	2000	Teenager	2025-01-01
7	Arnoldo Millender	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
8	Katherine	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01

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

**Solution:-**

- a)  
update studentbasicinformation set StudentAddress="56 Gold Street US" where StudentRollNo=1;
- b)  
update studentscholarshipinformation set ScholarshipAmount=5000 where StudentName = "Katherine Pierce";
- c)  
update StudentAdmissionPayment set BankName = "ICICI" where AmountBalance=0;
- d)  
update StudentSubjectInformation set SubjectOpted="Chemistry" where StudentRollNo=9;
- e)  
update StudentAdmissionPayment set BankName = "PNB" where StudentRollNo=6;

6. Snap of the all the tables post updation

**Solution:-**

a)

Showing rows 0 - 9 (10 total, Query took 0.0012 seconds.)

SELECT \* FROM `studentsubjectinformation`

Number of rows: 25 Filter rows: Search this table Sort by key: None

	SubjectOpted	StudentRollNo	StudentTotalMarks	StudentMarksObtained	StudentMarksPercentage	GradeObtained
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Physics	1	100	90	90	A
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Chemistry	2	100	85	85	B
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Computer	3	100	82	82	B
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Biology	4	100	20	20	F
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Physics	5	100	100	100	O
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Mathematics	6	100	73	73	B
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Economics	7	100	91	91	A
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Commerce	8	100	45	45	E
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Chemistry	9	100	63	63	D
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	Mathematics	10	100	99	99	A

Activate Windows  
Go to Settings to activate Windows.

b)

Showing rows 0 - 9 (10 total, Query took 0.0013 seconds.)

FROM `subjectscholarshipinformation`

Number of rows: 25 Filter rows: Search this table Sort by key: None

	StudentRollNo	StudentName	ScholarshipName	ScholarshipDescription	ScholarshipAmount	ScholarshipCategory	ScholarshipExpiryDate
dit Edit Copy Delete	1	Sheridan Coyle	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
dit Edit Copy Delete	2	Edwin Hamlet	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
dit Edit Copy Delete	3	Cornard Rendon	Paradigm Challenge	The Paradigm Challenge is open to students up to t...	2000	Teenager	2025-01-01
dit Edit Copy Delete	4	Tempie Cheek	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
dit Edit Copy Delete	5	Ardell Franchie	Paradigm Challenge	The Paradigm Challenge is open to students up to t...	2000	Teenager	2025-01-01
dit Edit Copy Delete	6	Shermaine Yerton	Paradigm Challenge	The Paradigm Challenge is open to students up to t...	2000	Teenager	2025-01-01
dit Edit Copy Delete	7	Arnoldo Millender	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
dit Edit Copy Delete	8	Katherine Pierce	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	5000	Graduate	2050-01-01

c)

Showing rows 0 - 9 (10 total, Query took 0.0010 seconds.)

SELECT \* FROM `studentbasicinformation`

Number of rows: 25 Filter rows: Search this table Sort by key: None

+ Options

	StudentName	StudentSurname	StudentRollNo	StudentAddress	StudentPhoneNumber	StudentGender	StudentBloodGroup
<input type="checkbox"/> Edit Copy Delete	Sheridan	Coyle	1	55, Gold Street, US	615409	Female	A-
<input type="checkbox"/> Edit Copy Delete	Edwin	Hamlet	2	102, Main Street, US	710850	Male	AB+
<input type="checkbox"/> Edit Copy Delete	Cornard	Rendon	3	52, Hala Street, US	614836	Female	B+
<input type="checkbox"/> Edit Copy Delete	Tempie	Cheek	4	1, Church Road, US	902840	Male	B+
<input type="checkbox"/> Edit Copy Delete	Ardell	Franchie	5	709, Main Street, US	501386	Male	A+
<input type="checkbox"/> Edit Copy Delete	Shermaine	Yerton	6	304, Star Road, US	109583	Female	O +
<input type="checkbox"/> Edit Copy Delete	Arnoldo	Millender	7	10, Bottle Palace, US	105928	Male	B
<input type="checkbox"/> Edit Copy Delete	Katherine	Pierce	8	109, YOLA, US	725926	Female	B
<input type="checkbox"/> Edit Copy Delete	Smile	Coggin	9	82, Church Road, US	4591	Male	AB-
<input type="checkbox"/> Edit Copy Delete	Chesson	Shoy	10	571 YUMAS US	615409	Male	O

d)



Showing rows 0 - 9 (10 total, Query took 0.0020 seconds.)

```
SELECT * FROM `studentadmissionpaymentdetails`
```

StudentRollNo	AmountPaid	AmountBalance	PaymentDate	BankName	CollegeAccountNumber	StudentAccountNumber
1	15000	45000	2021-01-10	AXIS	91027291003729	30172432810273
2	35000	25000	2021-01-10	ICICI	91027291003729	30172432810810
3	10500	49500	2021-01-10	SWISS	91027291003729	30172432810620
4	25000	35000	2021-01-10	CORPORATION	91027291003729	30172432810667
5	60000	0	2021-01-10	ICICI	91027291003729	301724328102106
6	15000	45000	2021-01-10	PNB	91027291003729	30172432810990
7	40000	20000	2021-01-10	SWISS	91027291003729	30172432810595
8	50000	10000	2021-01-10	SBI	91027291003729	30172432810152
9	45000	15000	2021-01-10	PNB	91027291003729	301724328102111
10	55000	5000	2021-01-10	ICICI	91027291003729	30172432810555

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

**Solution:-**

select \* from subjectscholarshipinformation where scholarshipamount>5000;

Showing rows 0 - 4 (5 total, Query took 0.0019 seconds.)

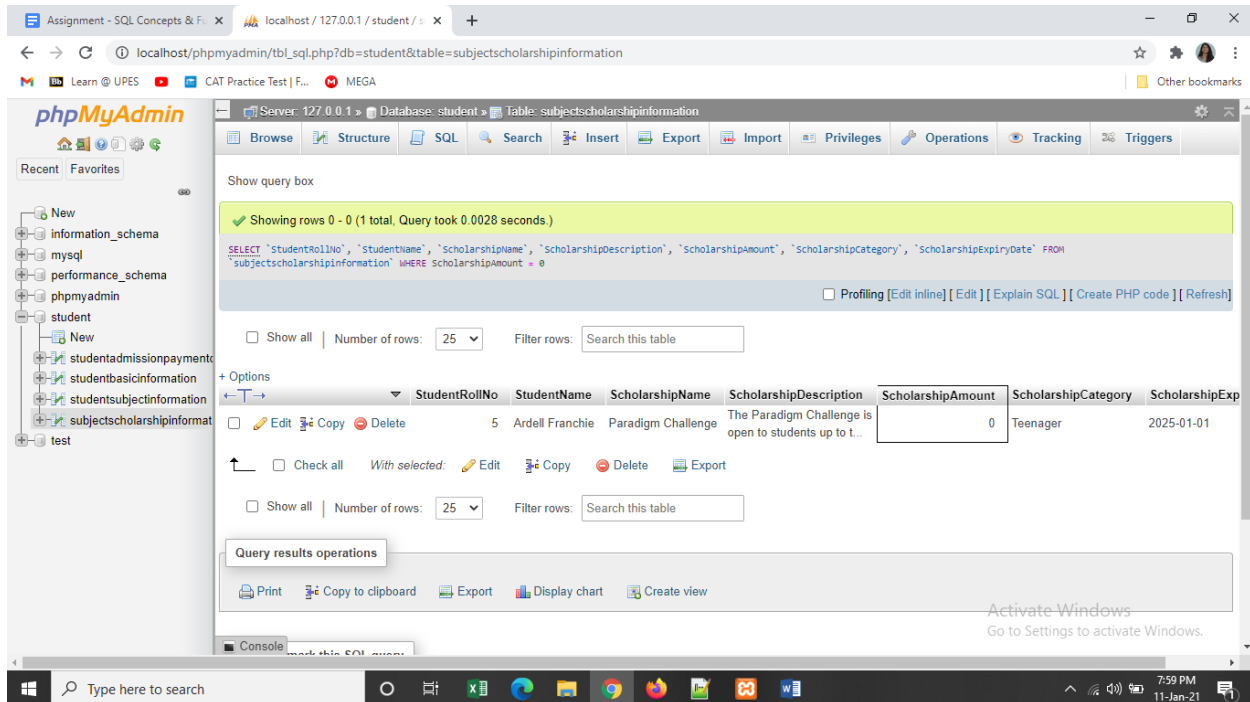
```
SELECT * FROM `subjectscholarshipinformation` WHERE ScholarshipAmount > 5000
```

StudentRollNo	StudentName	ScholarshipName	ScholarshipDescription	ScholarshipAmount	ScholarshipCategory	ScholarshipExp
1	Sheridan Coyle	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
2	Edwin Hamlet	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
4	Temple Cheek	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
7	Arnoldo Millender	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
9	Smile Coggin	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01

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

**Solution:-**

select StudentRollNo, StudentName, ScholarshipName, ScholarshipDescription, ScholarshipAmount, ScholarshipCategory, ScholarshipExpiryDate from subjectscholarshipinformation where scholarshipamount = 0



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

**Solution:-**

```
delimiter //
create procedure insertpercentages()
begin
update studentsubjectinformation set
studentmarkspercentage=100*(subjectobtainedmarks/subjecttotalmarks);
end //
delimiter ;

call insertpercentage();
```

The screenshot displays a MySQL database interface with the following components:

- Top Panel:** Shows the server status (Server: 127.0.0.1) and the selected database (Database: student). The menu bar includes Structure, SQL, Search, Query, Export, Import, Operations, Privileges, Routines, Events, Triggers, and Designer.
- Query Box:** Contains the SQL statement: `UPDATE studentsubjectinformation SET studentmarkspercentage = 0`. The status bar indicates "10 rows affected. (Query took 0.1290 seconds.)".
- Table View:** Below the query box, a table view for 'studentsubjectinformation' is shown. It displays 10 rows of data with columns: Subject, StudentRollNo, StudentTotalMarks, StudentMarksObtained, StudentMarksPercentage, and GradeObtained.
- Table Data:**

Subject	StudentRollNo	StudentTotalMarks	StudentMarksObtained	StudentMarksPercentage	GradeObtained
Physics	1	100	90	90	A
Chemistry	2	100	85	85	B
Computer	3	100	82	82	B
Biology	4	100	20	20	F
Physics	5	100	100	100	O
Mathematics	6	100	73	73	B
Economics	7	100	91	91	A
Commerce	8	100	45	45	E
Chemistry	9	100	63	63	D
Mathematics	10	100	99	99	A
- Bottom Panel:** Includes a console window and a taskbar with various application icons.

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

**Solution:-**

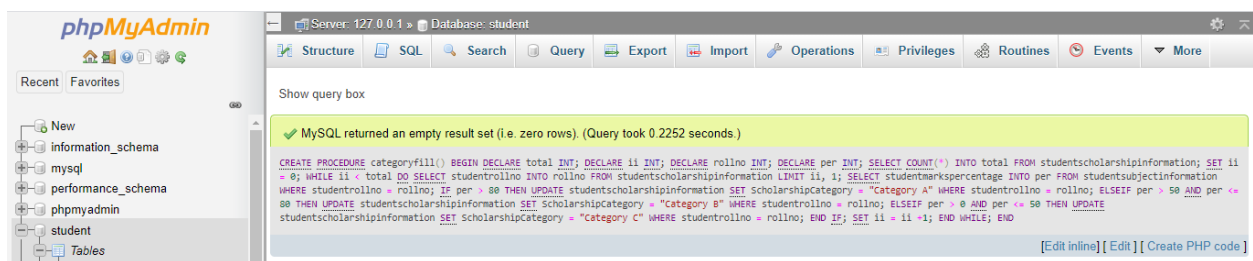
```
delimiter //
create procedure categoryfill()
begin
declare total int;
declare ii int;
declare rollno int;
```

```

declare per int;
select count(*) into total from studentscholarshipinformation;
set ii=0;
while ii<total do
select studentrollno into rollno from studentscholarshipinformation limit ii,1;
select studentmarkspercentage into per from studentsubjectinformation where
studentrollno=rollno;
if per >80 then
update studentscholarshipinformation set ScholarshipCategory="Category A" where
studentrollno = rollno;
elseif per >50 and per <=80 then
update studentscholarshipinformation set ScholarshipCategory="Category B" where
studentrollno = rollno;
elseif per>0 and per<=50 then
update studentscholarshipinformation set ScholarshipCategory="Category C" where
studentrollno = rollno;
end if;
set ii = ii+1;
end while;
end //
delimiter ;

call categoryfill();

```



Server: 127.0.0.1 » Database: student » Table: subjectscholarshipinformation

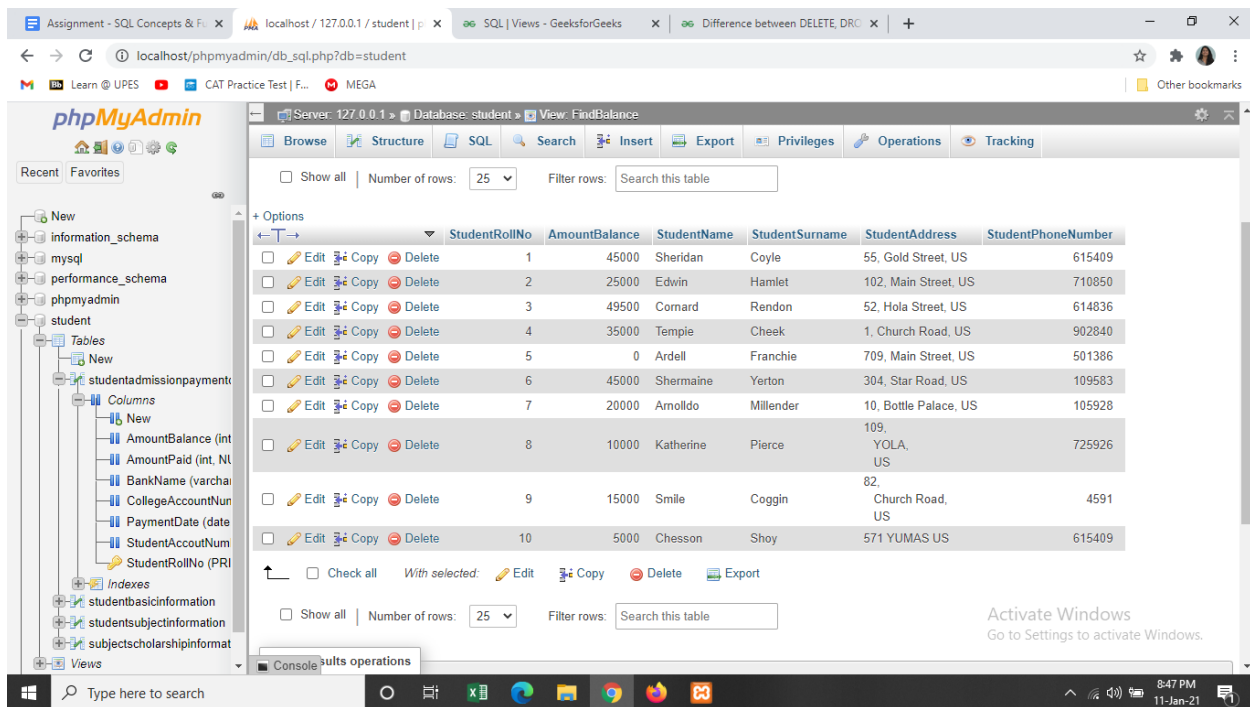
Number of rows: 25 Filter rows: Search this table Sort by key: None

StudentRollNo	StudentName	ScholarshipName	ScholarshipDescription	ScholarshipAmount	ScholarshipCategory	ScholarshipExpiryDate
1	Sheridan Coyle	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	0000-00-00
2	Edwin Hamlet	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
3	Conard Rendon	Paradigm Challenge	The Paradigm Challenge is open to students up to t...	2000	Teenager	2025-01-01
4	Temple Cheek	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
5	Ardell Franchie	Paradigm Challenge	NULL	0	Teenager	2025-01-01
6	Shermaine Yerton	Paradigm Challenge	NULL	2000	Teenager	2025-01-01
7	Arnoldo Millender	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
8	Katherine Pierce	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	5000	Graduate	2050-01-01
9	Smile Coggin	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000	Graduate	2050-01-01
10	Chesson Shoy	Paradigm Challenge	The Paradigm Challenge is open to students up to L...	2000	Teenager	2025-01-01

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

### Solution:-

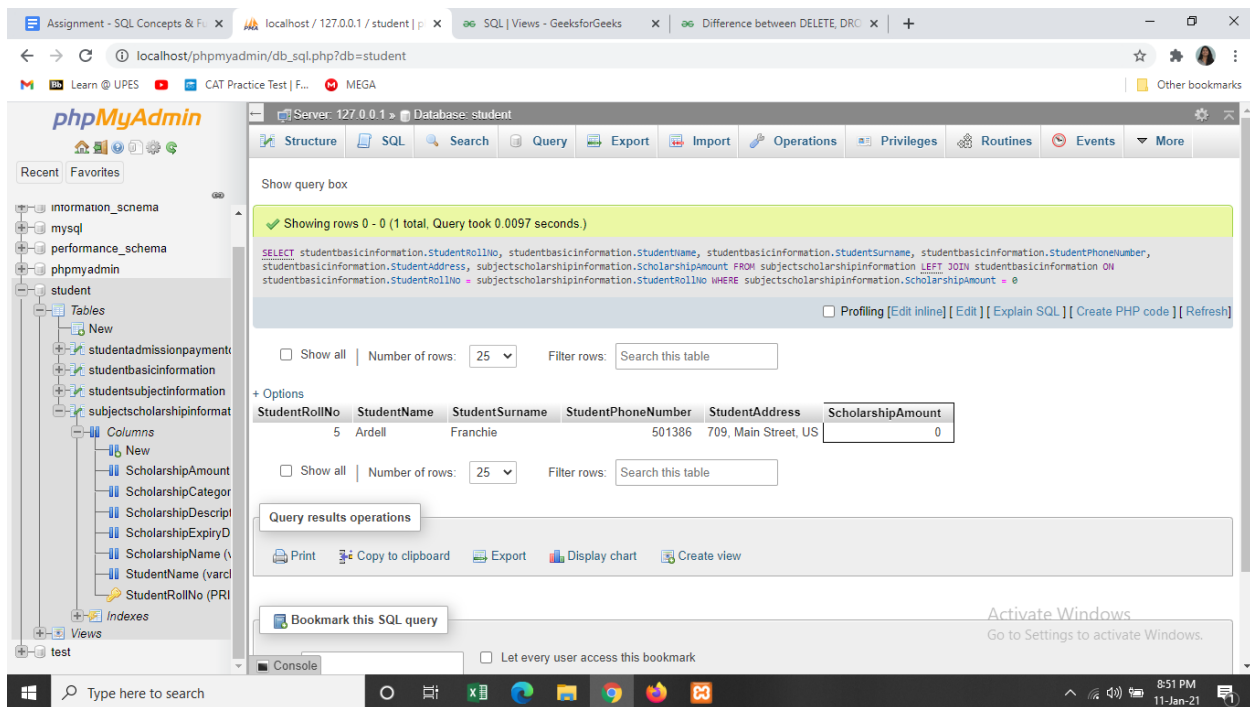
Create view FindBalance as studentbasicinformation.StudentRollNo, studentadmissionpaymentdetails.AmountBalance, studentbasicinformation.StudentName, studentbasicinformation.StudentSurname, studentbasicinformation.StudentAddress, studentbasicinformation.StudentPhoneNumber from studentadmissionpaymentdetails right join studentbasicinformation on studentbasicinformation.StudentRollNo = studentadmissionpaymentdetails.StudentRollNo;



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

### Solution:-

select studentbasicinformation.studentrollno, studentbasicinformation.studentname, studentbasicinformation.studentsurname, studentbasicinformation.studentphonenum, studentbasicinformation.studentaddress, subjectscholarshipinformation.scholarshipamount from subjectscholarshipinformation left join studentbasicinformation on studentbasicinformation.studentrollno = subjectscholarshipinformation.studentrollno where subjectscholarshipinformationscholarshipamount = 0;

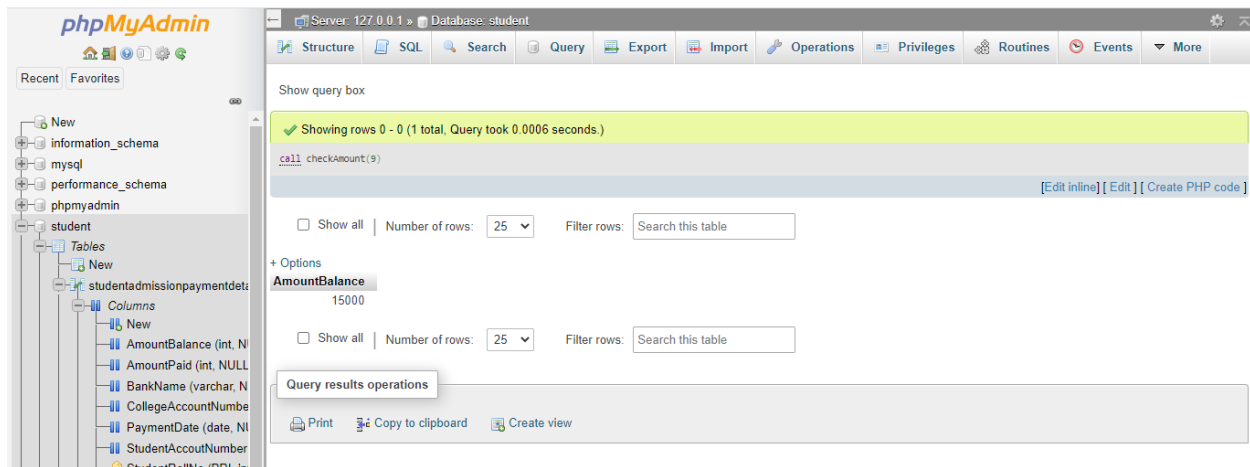


13. Create Stored Procedure which will be return the amount balance to be paid by the student as per the student roll number passed through the stored procedure as the input

### Solution:-

```
delimiter //
create procedure amountcheck ( in rollno int )
begin
select amountbalance from studentadmissionpayment where studentrollno=rollno;
end //
delimiter ;

call amountcheck(RollNo);
```



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

### Solution:-

SELECT studentbasicinformation.studentRollNo, studentbasicinformation.studentname, studentbasicinformation.StudentSurname, studentbasicinformation.studentaddress, studentbasicinformation.StudentPhoneNumber, studentbasicinformation.studentgender, (SELECT studentsubjectinformation.studentmarkspercentage FROM studentsubjectinformation WHERE studentsubjectinformation.studentrollno = studentbasicinformation.studentrollno) AS C ROMR studentbasicinformationn ORDER BY C DESC LIMIT 5

StudentRollNo	StudentName	StudentSurname	StudentAddress	StudentPhoneNumber	StudentGender	C
5	Ardell	Franchie	709, Main Street, US	501386	Male	100
10	Chesson	Shoy	571 YUMAS US	615409	Male	99
7	Arnoldo	Millender	10, Bottle Palace, US	105928	Male	91
1	Sheridan	Coyle	55, Gold Street, US	615409	Female	90
2	Edwin	Hamlet	102, Main Street, US	710850	Male	85



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)

**Solution:-**

**LEFT JOIN: Creating a view using left join so as to obtain the data of the student with maximum marks.**

The screenshot displays the phpMyAdmin interface for a database named 'student'. The left sidebar shows the database structure, including tables like 'studentbasicinformation', 'studentsubjectinformation', and 'subjectsolarshipinformation', and views like 'marks', 'maxsubject', and 'percentage'.

The main panel shows the 'Query' tab with the following SQL query:

```
CREATE VIEW MARKS AS SELECT studentbasicinformation.StudentRollNo, studentbasicinformation.StudentName, studentbasicinformation.StudentSurname, studentbasicinformation.StudentGender, MAX(studentsubjectinformation.StudentMarksObtained) FROM studentsubjectinformation LEFT JOIN studentbasicinformation ON studentsubjectinformation.StudentRollNo = studentbasicinformation.StudentRollNo
```

The query execution result shows: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0629 seconds)".

Below the query, the 'View: MARKS' tab is active, showing the 'Browse' view of the 'MARKS' view. The message states: "Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available." The query shown is: "SELECT \* FROM MARKS".

The results table displays the following data:

StudentRollNo	StudentName	StudentSurname	StudentGender	Name_exp_5
1	Sheridan	Coyle	Female	100

The interface also includes options for 'Show all', 'Number of rows' (set to 25), and 'Filter rows' (Search this table). Below the results, there are links for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.

## RIGHT JOIN: Creating a view using right join to obtain data of student with highest scholarship.

Assignment - SQL Concepts & ... localhost / 127.0.0.1 / student | delete drop and truncate - Go | Database Level DDL Triggers f... SQL FULL OUTER JOIN Keywor | + -

localhost/phpmyadmin/db\_sql.php?db=student

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Other bookmarks

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    - findbalance
    - marks
    - maxsubject
    - percentage
    - scholarship
- test

Server: 127.0.0.1 Database: student

Structure SQL Search Query Export Import Operations Privileges Routines Events More

Show query box

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0543 seconds.)

```
CREATE VIEW SCHOLARSHIP AS SELECT studentbasicinformation.StudentRollNo, studentbasicinformation.StudentName, studentbasicinformation.StudentSurname, studentbasicinformation.StudentGender, subjectscharshipinformation.ScholarshipAmount, subjectscharshipinformation.ScholarshipName, subjectscharshipinformation.ScholarshipDescription FROM subjectscharshipinformation RIGHT JOIN studentbasicinformation ON subjectscharshipinformation.StudentRollNo = studentbasicinformation.StudentRollNo
```

[Edit inline] [Edit] [Create PHP code]

Activate Windows  
Go to Settings to activate Windows.

Type here to search

Assignment - SQL Concepts & ... localhost / 127.0.0.1 / student | delete drop and truncate - Go | Database Level DDL Triggers f... SQL FULL OUTER JOIN Keywor | + -

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    - New
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    - marks
    - maxsubject
    - percentage
    - scholarship
- test

Server: 127.0.0.1 Database: student View: maxscholarship

Browse Structure SQL Search Export Privileges Operations Tracking

Show query box

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 0 (1 total, Query took 0.0026 seconds.)

```
SELECT * FROM maxscholarship
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

+ Options

StudentRollNo	StudentName	StudentSurname	StudentGender	ScholarshipName	ScholarshipDescription	Name_exp_7
1	Sheridan	Coyle	Female	Dell Scholar Program	The Dell Scholars Program is open to graduating hi...	20000

Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Activate Windows  
Go to Settings to activate Windows.

Type here to search

## INNER JOIN: To retrieve data of students along with their paid fees and amount left to be paid.

The screenshot shows the phpMyAdmin interface with a query executed. The query is an INNER JOIN between the 'studentbasicinformation' and 'studentadmissionpaymentdetails' tables. The result shows 10 rows of student data with their respective paid and balance amounts.

Query:

```
SELECT studentbasicinformation.StudentRollNo, studentbasicinformation.StudentName, studentbasicinformation.StudentSurname, studentbasicinformation.StudentGender, studentadmissionpaymentdetails.AmountPaid, studentadmissionpaymentdetails.AmountBalance FROM studentadmissionpaymentdetails INNER JOIN studentbasicinformation ON studentadmissionpaymentdetails.StudentRollNo = studentbasicinformation.StudentRollNo
```

StudentRollNo	StudentName	StudentSurname	StudentGender	AmountPaid	AmountBalance
1	Sheridan	Coyle	Female	15000	45000
2	Edwin	Hamlet	Male	35000	25000
3	Comard	Rendon	Female	10500	49500
4	Temple	Cheek	Male	25000	35000
5	Ardell	Franchie	Male	60000	0
6	Shermaine	Yerton	Female	15000	45000
7	Arnolldo	Millender	Male	40000	20000
8	Katherine	Pierce	Female	50000	10000
9	Smile	Coggin	Male	45000	15000
10	Chesson	Shoy	Male	55000	5000

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

### Solution:-

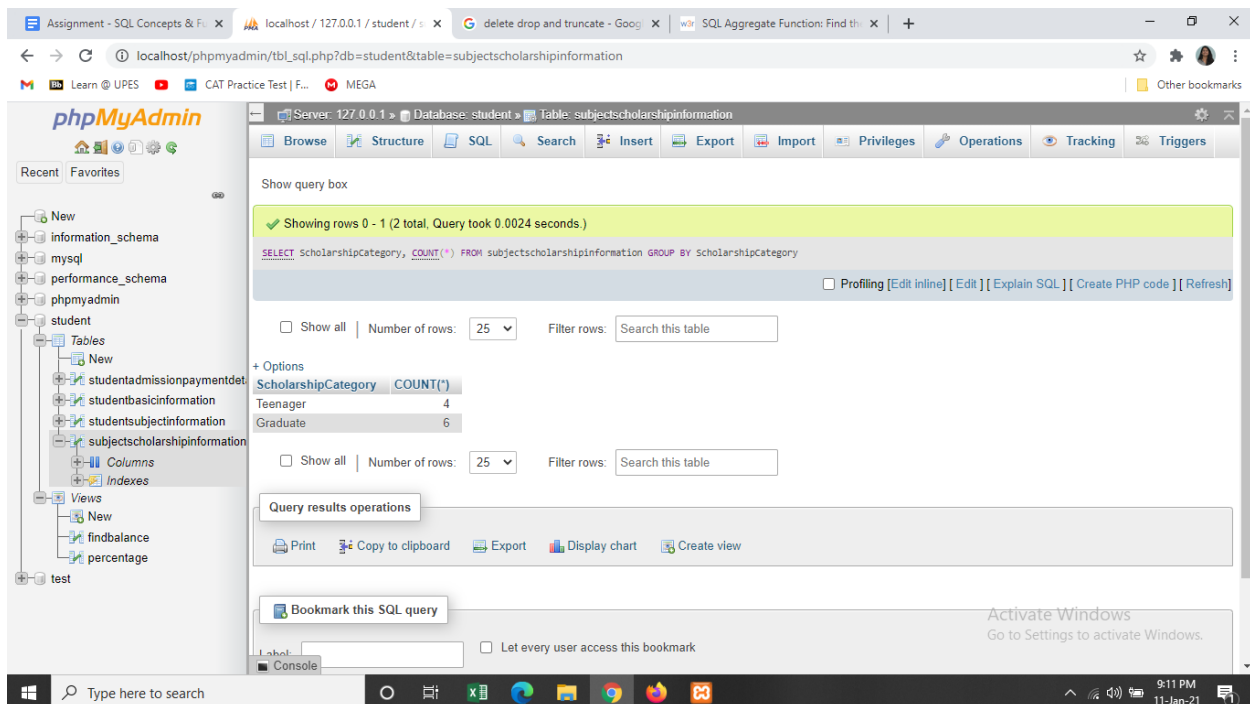
Parameter	DELETE	DROP	TRUNCATE
Type	DELETE is a Data Manipulation Language (DML) command	DROP is a Data Definition Language (DDL) command	TRUNCATE is a Data Definition Language (DDL) command
Use	It is used to delete the data in a table, but not the table structure.	It is used to delete the data and the table structure.	Like DELETE, It is used to delete the data and not the structure.
Single Row	We can delete a single row using WHERE clause	We cannot delete a single row only.	We cannot delete a single row as WHERE can't be used.
Rollback	We can use ROLLBACK to restore	We can't restore by using ROLLBACK	We can't restore by using ROLLBACK

Syntax	DELETE from STUDENT; DELETE from STUDENT where Age<18;	DROP table STUDENT;	TRUNCATE table STUDENT,
--------	---	---------------------	-------------------------

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

**Solution:-**

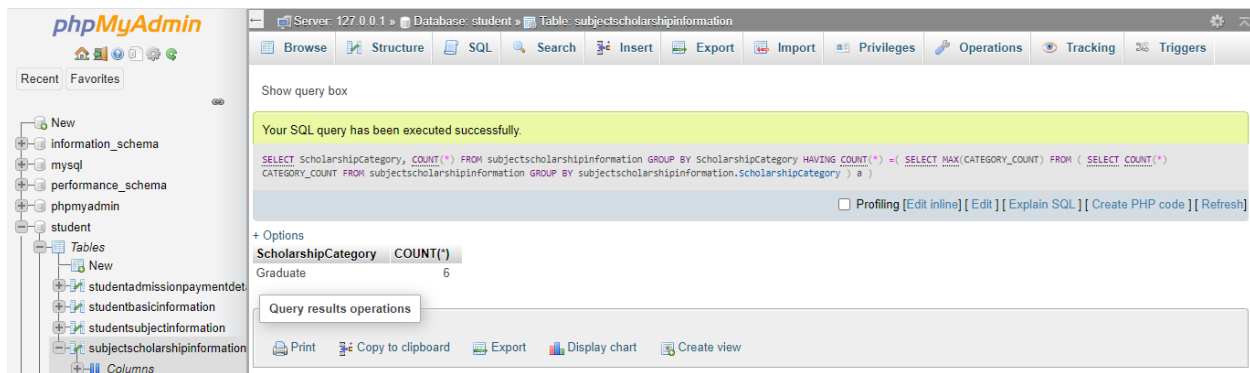
select ScholarshipCategory,count(\*) from studentscholarshipinformation group by ScholarshipCategory ;



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

**Solution:-**

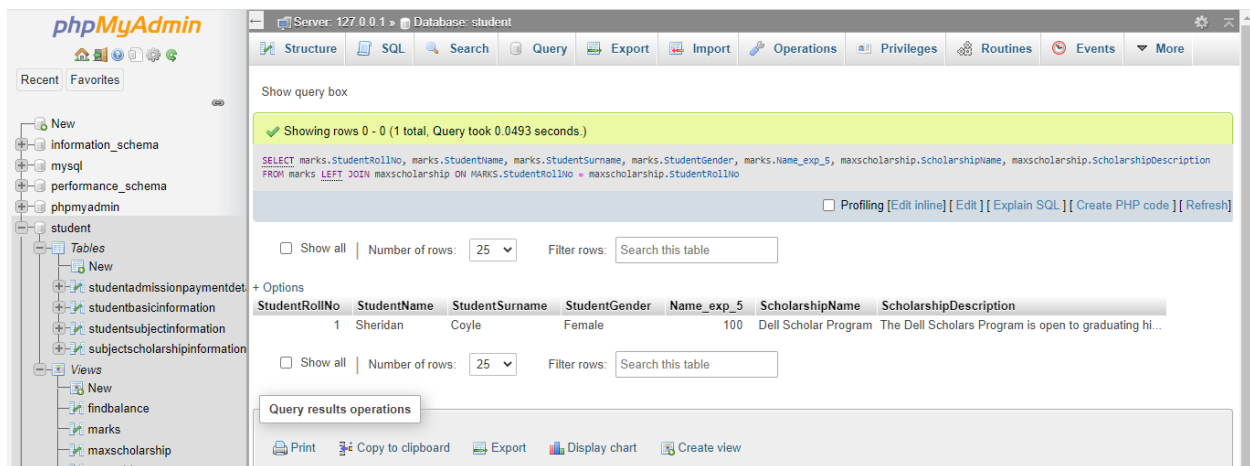
select ScholarshipCategory,count(\*) from studentscholarshipinformation group by ScholarshipCategory having count(\*) = (select max(CATEGORY\_COUNT) from (select count(\*) CATEGORY\_COUNT from studentscholarshipinformation group by studentscholarshipinformation .scholarshipcategory ) a );



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

**Solution:-**

SELECT marks.studentrollNo, marks.Studentname, marks.Studentsurname, marks.studentgender, maxscholarship.scholarshipname, maxscholarship.scholarshipdescription  
FROM marks LEFT JOIN maxscholarship ON MARKS. Studentrollo = maxcholarship.tudentRollno;



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

**Solution:-**

**Triggers:** A trigger runs automatically when an event occurs in the Database server.

1. Triggers run implicitly when an insert, update or delete is performed on a table.
2. We cannot pass any parameters in triggers.
3. They do not return any value.

**Stored Procedure:** A stored procedure is a collection of SQL statements that can be reused.

1. Stored procedure is called explicitly.
2. We can pass parameters in a stored procedure.
3. They may or may not return any value

**Views:** A view is a virtual table which may contain fields from one or more tables.

1. A view can be used in reference with the SELECT command.
  2. It does not accept any parameters.
3. It is faster than stored procedures as it displays data from a table whereas stored procedure executes a series of sql commands.

**Functions:** User defined functions are a block of code that accept parameters, do some task and return a value.

1. We can call functions from a SELECT statement.
2. We can pass parameters in User defined functions.
3. Functions always return a value.