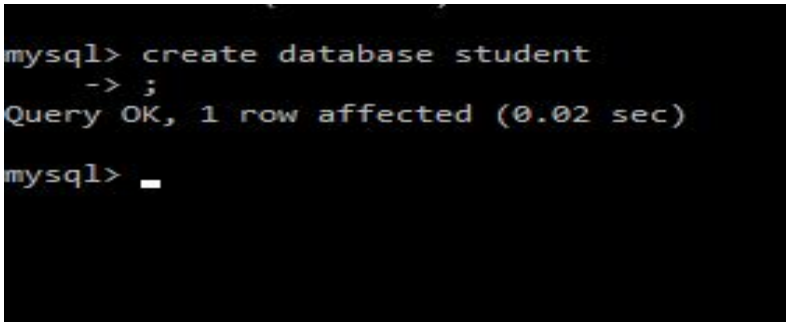
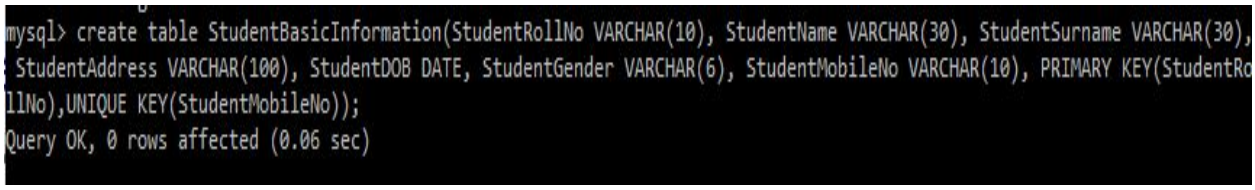
SQL ASSIGNMENT

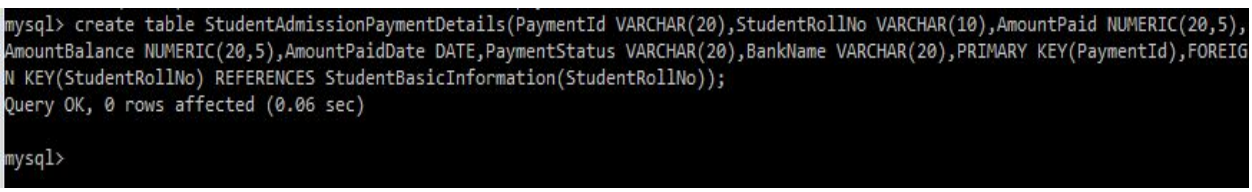
1. Create Student Database



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

```
mysql> create table StudentSubjectInformation(SubjectOpted VARCHAR(20),StudentRollNo VARCHAR(10),SubjectTotalMarks NUMERIC(5,2),
SubjectObtainedMarks NUMERIC(5,2),StudentMarksPercentage NUMERIC(5,2),Grades VARCHAR(5),PRIMARY KEY(SubjectOpted,StudentRollNo),
FOREIGN KEY(StudentRollNo) REFERENCES StudentBasicInformation(StudentRollNo));
Query OK, 0 rows affected (0.05 sec)

mysql>
```

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

```
mysql> create table SubjectScholarshipInformation(ScholarshipId VARCHAR(10),StudentRollNo VARCHAR(10),ScholarshipName VARCHAR
(20),ScholarshipDescription VARCHAR(50),ScholarshipAmount NUMERIC(10,3), ScholarshipCategory VARCHAR(10),ScholarshipApproval
VARCHAR(20),PRIMARY KEY(ScholarshipId),FOREIGN KEY(StudentRollNo) REFERENCES StudentBasicInformation(StudentRollNo));
Query OK, 0 rows affected (0.05 sec)

mysql>
```

3. Insert more than 10 records in each and every table created

StudentBasicInformation

```
mysql> Insert INTO StudentBasicInformation Values('1','Nisarg','Shah','B1 Vrajdham Society, Waghodia Road, Vadodara',STR_TO_DATE('1998-03-20', '%Y-%m-%d'),'Male','6354658037');
Query OK, 1 row affected (0.01 sec)

mysql> Insert INTO StudentBasicInformation Values('2','Manan','Mapara','C10 Devpusp Duplex, Karelibaug, Vadodara',STR_TO_DATE('1997-09-30', '%Y-%m-%d'),'Male','9845684231');
Query OK, 1 row affected (0.01 sec)

mysql> Insert INTO StudentBasicInformation Values('3','Bhavya','Makwana','5 Rajshree Complex, MG Road, Delhi',STR_TO_DATE('1997-12-01', '%Y-%m-%d'),'Male','8457845321');
Query OK, 1 row affected (0.01 sec)

mysql> Insert INTO StudentBasicInformation Values('4','Kajal','Parikh', 'C1 Sukhdham Township, Sancoale, Goa',STR_TO_DATE('1996-10-18', '%Y-%m-%d'),'Female','9879874966');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentBasicInformation Values('5','Parth','Modhvadia','A10 Govardhan Society, Gotri, Vadodara',STR_TO_DATE('1997-11-25', '%Y-%m-%d'),'Male','7484967458');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentBasicInformation Values('6','Nirmal','Patel','D125 Chandranagar Society, Waghodia Road, Vadodara',STR_TO_DATE('1997-03-29', '%Y-%m-%d'),'Male','8548567894');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentBasicInformation Values('7','Rachit','Ban','A5 Gokulesh Township, Karelibaug, Vadodara',STR_TO_DATE('1997-05-11', '%Y-%m-%d'),'Male','7383489759');
Query OK, 1 row affected (0.01 sec)

mysql> Insert INTO StudentBasicInformation Values('8','Priyanka','Vaghela','Phase 2 railakshmi Apartment, Hinjawadi, Pune',STR_TO_DATE('1997-02-14', '%Y-%m-%d'),'Female','7894567894');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentBasicInformation Values('9','Ayushya','Vadhera','15 Gokuldham Society, Kormangala, Bangalore',STR_TO_DATE('1995-10-26', '%Y-%m-%d'),'Male','9876549874');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentBasicInformation Values('10','Haard','Shah','B4 Sakar Complex, Sama Savli, Vadodara',STR_TO_DATE('1997-08-31', '%Y-%m-%d'),'Male','7539518426');
Query OK, 1 row affected (0.01 sec)

mysql>
```

StudentAdmissionPaymentDetails

```
mysql> Insert INTO StudentAdmissionPaymentDetails values('1','1',25000,45000,STR_TO_DATE('2021-01-05', '%Y-%m-%d'),'Pending','HDFC');
Query OK, 1 row affected (0.02 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('2','4',35000,12000,STR_TO_DATE('2020-12-10', '%Y-%m-%d'),'Pending','AXIS');
Query OK, 1 row affected (0.01 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('3','6',100000,0,STR_TO_DATE('2021-01-10', '%Y-%m-%d'),'Paid','SBI');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('4','8',12000,35461,STR_TO_DATE('2020-12-25', '%Y-%m-%d'),'Pending','HDFC');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('5','10',45000,13450,STR_TO_DATE('2020-12-18', '%Y-%m-%d'),'Pending','BOB');
Query OK, 1 row affected (0.01 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('6','2',87500,0,STR_TO_DATE('2021-01-20', '%Y-%m-%d'),'Paid','ICICI');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('7','5',1000,70000,STR_TO_DATE('2020-12-12', '%Y-%m-%d'),'Pending','SBI');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('8','7',16450,45000,STR_TO_DATE('2020-12-24', '%Y-%m-%d'),'Pending','BOB');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('9','9',80000,0,STR_TO_DATE('2021-01-20', '%Y-%m-%d'),'Paid','SBI');
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO StudentAdmissionPaymentDetails values('10','3',75000,6000,STR_TO_DATE('2020-12-8', '%Y-%m-%d'),'Pending','HDFC');
Query OK, 1 row affected (0.00 sec)

mysql>
```

StudentSubjectInformation

```
mysql> Insert into StudentSubjectInformation values('NLP','1',100,84,NULL,'A-');
Query OK, 1 row affected (0.05 sec)

mysql> Insert into StudentSubjectInformation values('ASR','2',100,78,NULL,'B+');
Query OK, 1 row affected (0.00 sec)

mysql> Insert into StudentSubjectInformation values('SPE','3',100,91,NULL,'A');
Query OK, 1 row affected (0.01 sec)

mysql> Insert into StudentSubjectInformation values('ML','4',100,65,NULL,'B');
Query OK, 1 row affected (0.00 sec)

mysql> Insert into StudentSubjectInformation values('NLP','5',100,72,NULL,'B+');
Query OK, 1 row affected (0.01 sec)

mysql> Insert into StudentSubjectInformation values('OS','6',100,75,NULL,'B+');
Query OK, 1 row affected (0.01 sec)

mysql> Insert into StudentSubjectInformation values('Software Testing','7',100,97,NULL,'A');
Query OK, 1 row affected (0.01 sec)

mysql> Insert into StudentSubjectInformation values('ASR','8',100,54,NULL,'B-');
Query OK, 1 row affected (0.00 sec)

mysql> Insert into StudentSubjectInformation values('ML','9',100,40,NULL,'C-');
Query OK, 1 row affected (0.01 sec)

mysql> Insert into StudentSubjectInformation values('Algorithm','10',100,89,NULL,'A-');
Query OK, 1 row affected (0.01 sec)

mysql>
```

SubjectScholarshipInformation

```
mysql> Insert INTO SubjectScholarshipInformation values('1','1','NLP Scholarship','Students Scoring exceptional marks in NLP Subject',10000,NULL,"Approved");
Query OK, 1 row affected (0.01 sec)

mysql> Insert INTO SubjectScholarshipInformation values('2','4','ML Scholarship','Students Scoring exceptional marks in ML Subject',8000,NULL,"Declined");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('3','5','NLP Scholarship','Students Scoring exceptional marks in NLP Subject',10000,NULL,"Declined");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('4','2','ASR Scholarship','Students Scoring exceptional marks in ASR Subject',4000,NULL,"Approved");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('5','3','SPE Scholarship','Students Scoring exceptional marks in SPE Subject',7000,NULL,"Approved");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('6','8','ASR Scholarship','Students Scoring exceptional marks in ASR Subject',4000,NULL,"Declined");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('7','10','Algo Scholarship','Students exceptional marks in Algo Subject',9000,NULL,"Approved");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('8','6','OS Scholarship','Students Scoring exceptional marks in OS Subject',5000,NULL,"Approved");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('9','7','Testing Scholarship','Students exceptional marks in Testing Subject',6000,NULL,"Approved");
Query OK, 1 row affected (0.00 sec)

mysql> Insert INTO SubjectScholarshipInformation values('10','9','ML Scholarship','Students Scoring exceptional marks in ML Subject',8000,NULL,"Declined");
Query OK, 1 row affected (0.00 sec)

mysql>
```

4. Snap of the all the tables once the insertion is completed

```
mysql> select * from StudentBasicInformation;
+---------------+-------------+---------------+-----------------------------------------------+------------+--------------+-----------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                | StudentDOB | StudentGender | StudentMobileNo |
+---------------+-------------+---------------+-----------------------------------------------+------------+--------------+-----------------+
| 1             | Nisarg      | Shah          | B1 Vrajdham Society, Waghodia Road, Vadodara  | 1998-03-20 | Male          | 6354658037      |
| 10            | Haard       | Shah          | B4 Sakar Complex, Sama Savli, Vadodara        | 1997-08-31 | Male          | 7539518426      |
| 2             | Manan       | Mapara        | C10 Devpusp Duplex, Karelibaug, Vadodara      | 1997-09-30 | Male          | 9845684231      |
| 3             | Bhavya      | Makwana       | 5 Rajshree Complex, MG Road, Delhi            | 1997-12-01 | Male          | 8457845321      |
| 4             | Kajal       | Parikh        | C1 Sukhdham Township, Sancoale, Goa           | 1996-10-18 | Female        | 9879874966      |
| 5             | Parth       | Modhvadia     | A10 Govardhan Society, Gotri, Vadodara        | 1997-11-25 | Male          | 7484967458      |
| 6             | Nirmal      | Patel         | D125 Chandranagar Society, Waghodia Road, Vadodara | 1997-03-29 | Male          | 8548567894      |
| 7             | Rachit      | Ban           | A5 Gokulesh Township, Karelibaug, Vadodara    | 1997-05-11 | Male          | 7383489759      |
| 8             | Priyanka    | Vaghela       | Phase 2 railakshmi Apartment, Hinjawadi, Pune | 1997-02-14 | Female        | 7894567894      |
| 9             | Ayushya     | Vadhera       | 15 Gokuldham Society, Kormangala, Bangalore   | 1995-10-26 | Male          | 9876549874      |
+---------------+-------------+---------------+-----------------------------------------------+------------+--------------+-----------------+
10 rows in set (0.02 sec)
```

```
mysql> select * from studentAdmissionPaymentDetails;
+------------+----------------+--------------+----------------+-----------------+----------------+-----------+
| PaymentId  | StudentRollNo  | AmountPaid   | AmountBalance  | AmountPaidDate  | PaymentStatus  | BankName  |
+------------+----------------+--------------+----------------+-----------------+----------------+-----------+
| 1          | 1              |  25000.00000 |   45000.00000  | 2021-01-05      | Pending        | HDFC      |
| 10         | 3              |  75000.00000 |    6000.00000  | 2020-12-08      | Pending        | HDFC      |
| 2          | 4              |  35000.00000 |   12000.00000  | 2020-12-10      | Pending        | AXIS      |
| 3          | 6              | 100000.00000 |       0.00000  | 2021-01-10      | Paid           | SBI       |
| 4          | 8              |  12000.00000 |   35461.00000  | 2020-12-25      | Pending        | HDFC      |
| 5          | 10             |  45000.00000 |   13450.00000  | 2020-12-18      | Pending        | BOB       |
| 6          | 2              |  87500.00000 |       0.00000  | 2021-01-20      | Paid           | ICICI     |
| 7          | 5              |   1000.00000 |   70000.00000  | 2020-12-12      | Pending        | SBI       |
| 8          | 7              |  16450.00000 |   45000.00000  | 2020-12-24      | Pending        | BOB       |
| 9          | 9              |  80000.00000 |       0.00000  | 2021-01-20      | Paid           | SBI       |
+------------+----------------+--------------+----------------+-----------------+----------------+-----------+
10 rows in set (0.00 sec)

mysql>
```

```
mysql> select * from StudentSubjectInformation;
+------------------+---------------+-------------------+----------------------+--------------------------+--------+
| SubjectOpted     | StudentRollNo | SubjectTotalMarks | SubjectObtainedMarks | StudentMarksPercentage   | Grades |
+------------------+---------------+-------------------+----------------------+--------------------------+--------+
| Algorithm        | 10            |            100.00 |                89.00 |                     NULL | A-     |
| ASR              | 2             |            100.00 |                78.00 |                     NULL | B+     |
| ASR              | 8             |            100.00 |                54.00 |                     NULL | B-     |
| ML               | 4             |            100.00 |                65.00 |                     NULL | B      |
| ML               | 9             |            100.00 |                40.00 |                     NULL | C-     |
| NLP              | 1             |            100.00 |                84.00 |                     NULL | A-     |
| NLP              | 5             |            100.00 |                72.00 |                     NULL | B+     |
| OS               | 6             |            100.00 |                75.00 |                     NULL | B+     |
| Software Testing | 7             |            100.00 |                97.00 |                     NULL | A      |
| SPE              | 3             |            100.00 |                91.00 |                     NULL | A      |
+------------------+---------------+-------------------+----------------------+--------------------------+--------+
10 rows in set (0.00 sec)
```

```
mysql> select * from SubjectScholarshipInformation;
+---------------+---------------+---------------------+-----------------------------------------------+-----------------+---------------------+---------------------+
| ScholarshipId | StudentRollNo | ScholarshipName     | ScholarshipDescription                        | ScholarshipAmount | ScholarshipCategory | ScholarshipApproval |
+---------------+---------------+---------------------+-----------------------------------------------+-----------------+---------------------+---------------------+
| 1             | 1             | NLP Scholarship     | Students Scoring exceptional marks in NLP Subject |        10000.000 | NULL                | Approved            |
| 10            | 9             | ML Scholarship      | Students Scoring exceptional marks in ML Subject  |         8000.000 | NULL                | Declined            |
| 2             | 4             | ML Scholarship      | Students Scoring exceptional marks in ML Subject  |         8000.000 | NULL                | Declined            |
| 3             | 5             | NLP Scholarship     | Students Scoring exceptional marks in NLP Subject |        10000.000 | NULL                | Declined            |
| 4             | 2             | ASR Scholarship     | Students Scoring exceptional marks in ASR Subject |         4000.000 | NULL                | Approved            |
| 5             | 3             | SPE Scholarship     | Students Scoring exceptional marks in SPE Subject |         7000.000 | NULL                | Approved            |
| 6             | 8             | ASR Scholarship     | Students Scoring exceptional marks in ASR Subject |         4000.000 | NULL                | Declined            |
| 7             | 10            | Algo Scholarship    | Students exceptional marks in Algo Subject        |         9000.000 | NULL                | Approved            |
| 8             | 6             | OS Scholarship      | Students Scoring exceptional marks in OS Subject  |         5000.000 | NULL                | Approved            |
| 9             | 7             | Testing Scholarship | Students exceptional marks in Testing Subject     |         6000.000 | NULL                | Approved            |
+---------------+---------------+---------------------+-----------------------------------------------+-----------------+---------------------+---------------------+
10 rows in set (0.00 sec)
```

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.

```
mysql> Update StudentBasicInformation set StudentName = 'Purvang' where StudentRollNo = '10';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>
mysql> Update StudentAdmissionPaymentDetails set AmountPaid = '45000',AmountPaidDate = STR_TO_DATE('2020-12-26', '%Y-%m-%d') where StudentRollNo = '3';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>
mysql> Update StudentSubjectInformation set SubjectOpted = 'GIS' where SubjectOpted LIKE '%TESTING';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>
mysql> Update SubjectScholarshipInformation set ScholarshipName = 'GIS Scholarship', ScholarshipDescription = 'Students exceptional marks in GIS Subject' where ScholarshipName = 'Testing Scholarship';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>
mysql> Update StudentBasicInformation set StudentAddress = '9 Gokuldham Society, Electronic City, Bangalore' where StudentRollNo = '9';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql>
```

6. Snap of the all the tables post updation.

```
mysql> select * from StudentBasicInformation;
+--------------+-------------+---------------+-----------------------------------------------+-------------+--------------+-----------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                | StudentDOB | StudentGender | StudentMobileNo |
+--------------+-------------+---------------+-----------------------------------------------+-------------+--------------+-----------------+
| 1            | Nisarg      | Shah          | B1 Vrajdham Society, Waghodia Road, Vadodara  | 1998-03-20 | Male         | 6354658037      |
| 10           | Purvang     | Shah          | B4 Sakar Complex, Sama Savli, Vadodara        | 1997-08-31 | Male         | 7539518426      |
| 2            | Manan       | Mapara        | C10 Devpusp Duplex, Karelibaug, Vadodara      | 1997-09-30 | Male         | 9845684231      |
| 3            | Bhavya      | Makwana       | 5 Rajshree Complex, MG Road, Delhi            | 1997-12-01 | Male         | 8457845321      |
| 4            | Kajal       | Parikh        | C1 Sukhdham Township, Sancoale, Goa           | 1996-10-18 | Female       | 9879874966      |
| 5            | Parth       | Modhvadia     | A10 Govardhan Society, Gotri, Vadodara        | 1997-11-25 | Male         | 7484967458      |
| 6            | Nirmal      | Patel         | D125 Chandranagar Society, Waghodia Road, Vadodara | 1997-03-29 | Male         | 8548567894      |
| 7            | Rachit      | Ban           | A5 Gokulesh Township, Karelibaug, Vadodara    | 1997-05-11 | Male         | 7383489759      |
| 8            | Priyanka    | Vaghela       | Phase 2 railakshmi Apartment, Hinjawadi, Pune | 1997-02-14 | Female       | 7894567894      |
| 9            | Ayushya     | Vadhera       | 9 Gokuldham Society, Electronic City, Bangalore | 1995-10-26 | Male         | 9876549874      |
+--------------+-------------+---------------+-----------------------------------------------+-------------+--------------+-----------------+
10 rows in set (0.00 sec)
```

```
mysql> select * from studentAdmissionPaymentDetails;
+-----------+---------------+--------------+---------------+----------------+---------------+----------+
| PaymentId | StudentRollNo | AmountPaid   | AmountBalance | AmountPaidDate | PaymentStatus | BankName |
+-----------+---------------+--------------+---------------+----------------+---------------+----------+
| 1         | 1             |  25000.00000 |   45000.00000 | 2021-01-05     | Pending       | HDFC     |
| 10        | 3             |  45000.00000 |    6000.00000 | 2020-12-26     | Pending       | HDFC     |
| 2         | 4             |  35000.00000 |   12000.00000 | 2020-12-10     | Pending       | AXIS     |
| 3         | 6             | 100000.00000 |       0.00000 | 2021-01-10     | Paid          | SBI      |
| 4         | 8             |  12000.00000 |   35461.00000 | 2020-12-25     | Pending       | HDFC     |
| 5         | 10            |  45000.00000 |   13450.00000 | 2020-12-18     | Pending       | BOB      |
| 6         | 2             |  87500.00000 |       0.00000 | 2021-01-20     | Paid          | ICICI    |
| 7         | 5             |   1000.00000 |   70000.00000 | 2020-12-12     | Pending       | SBI      |
| 8         | 7             |  16450.00000 |   45000.00000 | 2020-12-24     | Pending       | BOB      |
| 9         | 9             |  80000.00000 |       0.00000 | 2021-01-20     | Paid          | SBI      |
+-----------+---------------+--------------+---------------+----------------+---------------+----------+
10 rows in set (0.00 sec)
```

```
mysql> select * from StudentSubjectInformation;
+--------------+---------------+-------------------+----------------------+-------------------------+--------+
| SubjectOpted | StudentRollNo | SubjectTotalMarks | SubjectObtainedMarks | StudentMarksPercentage | Grades |
+--------------+---------------+-------------------+----------------------+-------------------------+--------+
| Algorithm    | 10            |            100.00 |                89.00 |                    NULL | A-     |
| ASR          | 2             |            100.00 |                78.00 |                    NULL | B+     |
| ASR          | 8             |            100.00 |                54.00 |                    NULL | B-     |
| GIS          | 7             |            100.00 |                97.00 |                    NULL | A      |
| ML           | 4             |            100.00 |                65.00 |                    NULL | B      |
| ML           | 9             |            100.00 |                40.00 |                    NULL | C-     |
| NLP          | 1             |            100.00 |                84.00 |                    NULL | A-     |
| NLP          | 5             |            100.00 |                72.00 |                    NULL | B+     |
| OS           | 6             |            100.00 |                75.00 |                    NULL | B+     |
| SPE          | 3             |            100.00 |                91.00 |                    NULL | A      |
+--------------+---------------+-------------------+----------------------+-------------------------+--------+
10 rows in set (0.00 sec)
```

```
mysql> select * from SubjectScholarshipInformation;
+---------------+---------------+-----------------+-----------------------------------------+-------------------+---------------------+---------------------+
| ScholarshipId | StudentRollNo | ScholarshipName | ScholarshipDescription                  | ScholarshipAmount | ScholarshipCategory | ScholarshipApproval |
+---------------+---------------+-----------------+-----------------------------------------+-------------------+---------------------+---------------------+
| 1             | 1             | NLP Scholarship | Students Scoring exceptional marks in NLP Subject |         10000.000 | NULL                | Approved            |
| 10            | 9             | ML Scholarship  | Students Scoring exceptional marks in ML Subject |          8000.000 | NULL                | Declined            |
| 2             | 4             | ML Scholarship  | Students Scoring exceptional marks in ML Subject |          8000.000 | NULL                | Declined            |
| 3             | 5             | NLP Scholarship | Students Scoring exceptional marks in NLP Subject |         10000.000 | NULL                | Declined            |
| 4             | 2             | ASR Scholarship | Students Scoring exceptional marks in ASR Subject |          4000.000 | NULL                | Approved            |
| 5             | 3             | SPE Scholarship | Students Scoring exceptional marks in SPE Subject |          7000.000 | NULL                | Approved            |
| 6             | 8             | ASR Scholarship | Students Scoring exceptional marks in ASR Subject |          4000.000 | NULL                | Declined            |
| 7             | 10            | Algo Scholarship | Students exceptional marks in Algo Subject       |          9000.000 | NULL                | Approved            |
| 8             | 6             | OS Scholarship  | Students Scoring exceptional marks in OS Subject |          5000.000 | NULL                | Approved            |
| 9             | 7             | GIS Scholarship | Students exceptional marks in GIS Subject        |          6000.000 | NULL                | Approved            |
+---------------+---------------+-----------------+-----------------------------------------+-------------------+---------------------+---------------------+
10 rows in set (0.00 sec)
```

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

```
mysql> select StudentBasicInformation.*,ScholarshipAmount from StudentBasicInformation,SubjectScholarshipInformation where StudentBasicInformation.StudentRollNo = SubjectScholarshipInformation.StudentRollNo
and ScholarshipAmount>=5000 and ScholarshipAppproval = "Approved";
+---------------+-------------+---------------+-----------------------------------------------+-------------+---------------+-----------------+-------------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                | StudentDOB  | StudentGender | StudentMobileNo | ScholarshipAmount |
+---------------+-------------+---------------+-----------------------------------------------+-------------+---------------+-----------------+-------------------+
| 1             | Nisarg      | Shah          | B1 Vrajdham Society, Waghodia Road, Vadodara  | 1998-03-20  | Male          | 6354658037      |         10000.000 |
| 3             | Bhavya      | Makwana       | 5 Rajshree Complex, MG Road, Delhi            | 1997-12-01  | Male          | 8457845321      |          7000.000 |
| 10            | Purvang     | Shah          | B4 Sakar Complex, Sama Savli, Vadodara        | 1997-08-31  | Male          | 7539518426      |          9000.000 |
| 6             | Nirmal      | Patel         | D125 Chandranagar Society, Waghodia Road, Vadodara | 1997-03-29 | Male          | 8548567894      |          5000.000 |
| 7             | Rachit      | Ban           | A5 Gokulesh Township, Karelibaug, Vadodara    | 1997-05-11  | Male          | 7383489759      |          6000.000 |
+---------------+-------------+---------------+-----------------------------------------------+-------------+---------------+-----------------+-------------------+
5 rows in set (0.00 sec)
```

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

```
mysql> select studentbasicinformation.* from studentbasicinformation natural join subjectscholarshipinformation where scholarshipApproval = "Declined";
+---------------+-------------+---------------+-----------------------------------------------+------------+---------------+-----------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                | StudentDOB | StudentGender | StudentMobileNo |
+---------------+-------------+---------------+-----------------------------------------------+------------+---------------+-----------------+
| 9             | Ayushya     | Vadhera       | 9 Gokuldham Society, Electronic City, Bangalore | 1995-10-26 | Male          | 9876549874      |
| 4             | Kajal       | Parikh        | C1 Sukhdham Township, Sancoale, Goa           | 1996-10-18 | Female        | 9879874966      |
| 5             | Parth       | Modhvadia     | A10 Govardhan Society, Gotri, Vadodara        | 1997-11-25 | Male          | 7484967458      |
| 8             | Priyanka    | Vaghela       | Phase 2 railakshmi Apartment, Hinjawadi, Pune | 1997-02-14 | Female        | 7894567894      |
+---------------+-------------+---------------+-----------------------------------------------+------------+---------------+-----------------+
4 rows in set (0.00 sec)

mysql>
```

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

```
mysql> create procedure calculate_percentage()
    -> update studentsubjectinformation set studentmarkspercentage = (subjectobtainedmarks/subjecttotalmarks)*100
where studentmarkspercentage is NULL;
Query OK, 0 rows affected (0.01 sec)

mysql> Call calculate_percentage();
Query OK, 10 rows affected (0.02 sec)

mysql> select * from studentsubjectinformation;
+---------------+----------------+--------------------+----------------------+--------------------------+---------+
| SubjectOpted  | StudentRollNo  | SubjectTotalMarks  | SubjectObtainedMarks | StudentMarksPercentage   | Grades  |
+---------------+----------------+--------------------+----------------------+--------------------------+---------+
| Algorithm     | 10             |             100.00 |                89.00 |                    89.00 | A-      |
| ASR           | 2              |             100.00 |                78.00 |                    78.00 | B+      |
| ASR           | 8              |             100.00 |                54.00 |                    54.00 | B-      |
| GIS           | 7              |             100.00 |                97.00 |                    97.00 | A       |
| ML            | 4              |             100.00 |                65.00 |                    65.00 | B       |
| ML            | 9              |             100.00 |                40.00 |                    40.00 | C-      |
| NLP           | 1              |             100.00 |                84.00 |                    84.00 | A-      |
| NLP           | 5              |             100.00 |                72.00 |                    72.00 | B+      |
| OS            | 6              |             100.00 |                75.00 |                    75.00 | B+      |
| SPE           | 3              |             100.00 |                91.00 |                    91.00 | A       |
+---------------+----------------+--------------------+----------------------+--------------------------+---------+
10 rows in set (0.00 sec)

mysql>
```

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.

```
mysql> select * from subjectscholarshipinformation;
+---------------+---------------+-----------------+-----------------------------------------+-------------------+--------------------+--------------------+
| ScholarshipId | StudentRollNo | ScholarshipName | ScholarshipDescription                  | ScholarshipAmount | ScholarshipCategory | ScholarshipApproval |
+---------------+---------------+-----------------+-----------------------------------------+-------------------+--------------------+--------------------+
| 1             | 1             | NLP Scholarship | Students Scoring exceptional marks in NLP Subject |        10000.000 | NULL               | Approved           |
| 10            | 9             | ML Scholarship  | Students Scoring exceptional marks in ML Subject  |         8000.000 | NULL               | Declined           |
| 2             | 4             | ML Scholarship  | Students Scoring exceptional marks in ML Subject  |         8000.000 | NULL               | Declined           |
| 3             | 5             | NLP Scholarship | Students Scoring exceptional marks in NLP Subject |        10000.000 | NULL               | Declined           |
| 4             | 2             | ASR Scholarship | Students Scoring exceptional marks in ASR Subject |         4000.000 | NULL               | Approved           |
| 5             | 3             | SPE Scholarship | Students Scoring exceptional marks in SPE Subject |         7000.000 | NULL               | Approved           |
| 6             | 8             | ASR Scholarship | Students Scoring exceptional marks in ASR Subject |         4000.000 | NULL               | Declined           |
| 7             | 10            | Algo Scholarship | Students exceptional marks in Algo Subject       |         9000.000 | NULL               | Approved           |
| 8             | 6             | OS Scholarship  | Students Scoring exceptional marks in OS Subject  |         5000.000 | NULL               | Approved           |
| 9             | 7             | GIS Scholarship | Students exceptional marks in GIS Subject         |         6000.000 | NULL               | Approved           |
+---------------+---------------+-----------------+-----------------------------------------+-------------------+--------------------+--------------------+
10 rows in set (0.00 sec)

mysql> delimiter &&
mysql> create procedure assign_scholarship_category()
    -> BEGIN
    -> update subjectscholarshipinformation set scholarshipcategory='Excellent' where studentrollno in (select studentrollno from studentsubjectinformation where studentmarkspercentage>=90 and studentmarkspercentage<=100);
    -> update subjectscholarshipinformation set scholarshipcategory='Best' where studentrollno in (select studentrollno from studentsubjectinformation where studentmarkspercentage>=80 and studentmarkspercentage<90);
    -> update subjectscholarshipinformation set scholarshipcategory='Good' where studentrollno in (select studentrollno from studentsubjectinformation where studentmarkspercentage>=75 and studentmarkspercentage<80);
    -> update subjectscholarshipinformation set scholarshipcategory='Satisfied' where studentrollno in (select studentrollno from studentsubjectinformation where studentmarkspercentage>=0 and studentmarkspercentage<75);
    -> END&&
Query OK, 0 rows affected (0.02 sec)

mysql> delimiter ;
mysql> call assign_scholarship_category();
Query OK, 4 rows affected (0.01 sec)

mysql> select * from subjectscholarshipinformation;
+---------------+---------------+-----------------+-----------------------------------------+-------------------+--------------------+--------------------+
| ScholarshipId | StudentRollNo | ScholarshipName | ScholarshipDescription                  | ScholarshipAmount | ScholarshipCategory | ScholarshipApproval |
+---------------+---------------+-----------------+-----------------------------------------+-------------------+--------------------+--------------------+
| 1             | 1             | NLP Scholarship | Students Scoring exceptional marks in NLP Subject |        10000.000 | Best               | Approved           |
| 10            | 9             | ML Scholarship  | Students Scoring exceptional marks in ML Subject  |         8000.000 | Satisfied          | Declined           |
| 2             | 4             | ML Scholarship  | Students Scoring exceptional marks in ML Subject  |         8000.000 | Satisfied          | Declined           |
| 3             | 5             | NLP Scholarship | Students Scoring exceptional marks in NLP Subject |        10000.000 | Satisfied          | Declined           |
| 4             | 2             | ASR Scholarship | Students Scoring exceptional marks in ASR Subject |         4000.000 | Good               | Approved           |
| 5             | 3             | SPE Scholarship | Students Scoring exceptional marks in SPE Subject |         7000.000 | Excellent          | Approved           |
| 6             | 8             | ASR Scholarship | Students Scoring exceptional marks in ASR Subject |         4000.000 | Satisfied          | Declined           |
| 7             | 10            | Algo Scholarship | Students exceptional marks in Algo Subject       |         9000.000 | Best               | Approved           |
| 8             | 6             | OS Scholarship  | Students Scoring exceptional marks in OS Subject  |         5000.000 | Good               | Approved           |
| 9             | 7             | GIS Scholarship | Students exceptional marks in GIS Subject         |         6000.000 | Excellent          | Approved           |
+---------------+---------------+-----------------+-----------------------------------------+-------------------+--------------------+--------------------+
10 rows in set (0.00 sec)
```

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

```
mysql> create view payment_due as select studentbasicinformation.*,amountbalance from studentbasicinformation natural join studentadmissionpaymentdetails;
Query OK, 0 rows affected (0.03 sec)

mysql> select * from payment_due;
+---------------+-------------+----------------+-------------------------------------------------+-------------+---------------+-----------------+---------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                  | StudentDOB  | StudentGender | StudentMobileNo | amountbalance |
+---------------+-------------+----------------+-------------------------------------------------+-------------+---------------+-----------------+---------------+
| 1             | Nisarg      | Shah           | B1 Vrajdham Society, Waghodia Road, Vadodara    | 1998-03-20  | Male          | 6354658037      |   45000.00000 |
| 10            | Purvang     | Shah           | B4 Sakar Complex, Sama Savli, Vadodara          | 1997-08-31  | Male          | 7539518426      |   13450.00000 |
| 2             | Manan       | Mapara         | C10 Devpusp Duplex, Karelibaug, Vadodara        | 1997-09-30  | Male          | 9845684231      |       0.00000 |
| 3             | Bhavya      | Makwana        | 5 Rajshree Complex, MG Road, Delhi              | 1997-12-01  | Male          | 8457845321      |    6000.00000 |
| 4             | Kajal       | Parikh         | C1 Sukhdham Township, Sancoale, Goa             | 1996-10-18  | Female        | 9879874966      |   12000.00000 |
| 5             | Parth       | Modhvadia      | A10 Govardhan Society, Gotri, Vadodara          | 1997-11-25  | Male          | 7484967458      |   70000.00000 |
| 6             | Nirmal      | Patel          | D125 Chandranagar Society, Waghodia Road, Vadodara | 1997-03-29 | Male          | 8548567894      |       0.00000 |
| 7             | Rachit      | Ban            | A5 Gokulesh Township, Karelibaug, Vadodara      | 1997-05-11  | Male          | 7383489759      |   45000.00000 |
| 8             | Priyanka    | Vaghela        | Phase 2 railakshmi Apartment, Hinjawadi, Pune   | 1997-02-14  | Female        | 7894567894      |   35461.00000 |
| 9             | Ayushya     | Vadhera        | 9 Gokuldham Society, Electronic City, Bangalore | 1995-10-26  | Male          | 9876549874      |       0.00000 |
+---------------+-------------+----------------+-------------------------------------------------+-------------+---------------+-----------------+---------------+
10 rows in set (0.01 sec)
```

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

```
mysql> select s1.* from studentbasicinformation s1 left join subjectscholarshipinformation s2 on s1.studentrollno = s2.studentrollno where scholarshipApproval = "Declined";
+---------------+-------------+----------------+-------------------------------------------------+-------------+---------------+-----------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                  | StudentDOB  | StudentGender | StudentMobileNo |
+---------------+-------------+----------------+-------------------------------------------------+-------------+---------------+-----------------+
| 9             | Ayushya     | Vadhera        | 9 Gokuldham Society, Electronic City, Bangalore | 1995-10-26  | Male          | 9876549874      |
| 4             | Kajal       | Parikh         | C1 Sukhdham Township, Sancoale, Goa             | 1996-10-18  | Female        | 9879874966      |
| 5             | Parth       | Modhvadia      | A10 Govardhan Society, Gotri, Vadodara          | 1997-11-25  | Male          | 7484967458      |
| 8             | Priyanka    | Vaghela        | Phase 2 railakshmi Apartment, Hinjawadi, Pune   | 1997-02-14  | Female        | 7894567894      |
+---------------+-------------+----------------+-------------------------------------------------+-------------+---------------+-----------------+
4 rows in set (0.00 sec)
```

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.

```
mysql> delimiter &&
mysql> create procedure check_balanceamount_by_rollno(rollNo varchar(10))
    -> BEGIN
    -> select amountbalance from studentadmissionpaymentdetails where studentrollno = rollNo;
    -> END&&
Query OK, 0 rows affected (0.02 sec)

mysql> delimiter ;
mysql> call check_balanceamount_by_rollno("5");
+---------------+
| amountbalance |
+---------------+
|   70000.00000 |
+---------------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.01 sec)
```

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

```
mysql> select * from studentsubjectinformation s1 where 5 > (
    -> select count(*) from studentsubjectinformation s2 where s2.studentmarkspercentage > s1.studentmarkspercentage
    -> )order by studentmarkspercentage desc;
+-------------+--------------+------------------+--------------------+----------------------+--------+
| SubjectOpted | StudentRollNo | SubjectTotalMarks | SubjectObtainedMarks | StudentMarksPercentage | Grades |
+-------------+--------------+------------------+--------------------+----------------------+--------+
| GIS         | 7            |           100.00 |              97.00 |                97.00 | A      |
| SPE         | 3            |           100.00 |              91.00 |                91.00 | A      |
| Algorithm   | 10           |           100.00 |              89.00 |                89.00 | A-     |
| NLP         | 1            |           100.00 |              84.00 |                84.00 | A-     |
| ASR         | 2            |           100.00 |              78.00 |                78.00 | B+     |
+-------------+--------------+------------------+--------------------+----------------------+--------+
5 rows in set (0.02 sec)
```

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)

(i) INNER JOIN
It is the most common type of join. It returns all rows from multiple tables where the join condition is met.

Example: If we want to find student details whose scholarships are approved then we can use inner join on studentrollno between tables studentbasicinformation and subjectscholarshipcategory.

```
mysql> select StudentBasicInformation.* from StudentBasicInformation INNER JOIN SubjectScholarshipInformation on studentbasicinformation.studentrollno = subjectscholarshipinformation.studentrollno where ScholarshipApproval = "Approved";
+--------------+-------------+---------------+-----------------------------------------------+-------------+---------------+----------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                | StudentDOB | StudentGender | StudentMobileNo |
+--------------+-------------+---------------+-----------------------------------------------+-------------+---------------+----------------+
| 1            | Nisarg      | Shah          | B1 Vrajdham Society, Waghodia Road, Vadodara  | 1998-03-20 | Male          | 6354658037     |
| 2            | Manan       | Mapara        | C10 Devpusp Duplex, Karelibaug, Vadodara      | 1997-09-30 | Male          | 9845684231     |
| 3            | Bhavya      | Makwana       | 5 Rajshree Complex, MG Road, Delhi            | 1997-12-01 | Male          | 8457845321     |
| 10           | Purvang     | Shah          | B4 Sakar Complex, Sama Savli, Vadodara        | 1997-08-31 | Male          | 7539518426     |
| 6            | Nirmal      | Patel         | D125 Chandranagar Society, Waghodia Road, Vadodara | 1997-03-29 | Male          | 8548567894     |
| 7            | Rachit      | Ban           | A5 Gokulesh Township, Karelibaug, Vadodara    | 1997-05-11 | Male          | 7383489759     |
+--------------+-------------+---------------+-----------------------------------------------+-------------+---------------+----------------+
6 rows in set (0.01 sec)
```

(ii) LEFT OUTER JOIN/LEFT JOIN
It returns all rows from the LEFT-hand table specified in the ON condition and only those rows from the other table where the joined fields are equal.

Example: If we want to find the student details who did not opt for scholarship or their scholarship approval is declined then we can use the left join as the student roll no will not present in the subjectscholarshipinformation.

```
mysql> select s1.* from studentbasicinformation s1 left join subjectscholarshipinformation s2 on s1.studentrollno = s2.studentrollno where scholarshipApproval = "Declined";
+--------------+-------------+---------------+-----------------------------------------------+-------------+---------------+----------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                                | StudentDOB | StudentGender | StudentMobileNo |
+--------------+-------------+---------------+-----------------------------------------------+-------------+---------------+----------------+
| 9            | Ayushya     | Vadhera       | 9 Gokuldham Society, Electronic City, Bangalore | 1995-10-26 | Male          | 9876549874     |
| 4            | Kajal       | Parikh        | C1 Sukhdham Township, Sancoale, Goa           | 1996-10-18 | Female        | 9879874966     |
| 5            | Parth       | Modhvadia     | A10 Govardhan Society, Gotri, Vadodara        | 1997-11-25 | Male          | 7484967458     |
| 8            | Priyanka    | Vaghela       | Phase 2 railakshmi Apartment, Hinjawadi, Pune | 1997-02-14 | Female        | 7894567894     |
+--------------+-------------+---------------+-----------------------------------------------+-------------+---------------+----------------+
4 rows in set (0.00 sec)
```

(iii) RIGHT OUTER JOIN/RIGHT JOIN
It returns all rows from the RIGHT-hand table specified in the ON condition and only those rows from the other table where the joined fields are equal.

Syntax:
SELECT columns FROM table1 RIGHT [OUTER] JOIN table2 ON table1.column = table2.column;

Example: We can take an example of left join here by reversing order of both tables i.e. on the left hand side we will have subjectscholarshipinformation and on RHS we have studentbasicinformation.

16. Mention the differences between the DELETE, DROP and TRUNCATE commands.
->DELETE: It is used to remove rows from a table based on WHERE condition.
DROP: It removes table from database
TRUNCATE: It removes all rows from a table.

->DELETE: It is a DML Command.
DROP: It is a DDL Command.
TRUNCATE: It is a DDL Command.

->DELETE: Syntax - delete from studentbasicinformation where studentrollno = '10';
DROP: Syntax - drop table studentbasicinformation;
TRUNCATE: Syntax - truncate table studentbasicinformation;

->DELETE: Once used it can be rolled back(undone).
DROP: Once used it can't be rolled back.
TRUNCATE: Once used it can't be rolled back.

->DELETE: It retains the identity of the column.
DROP: As the whole table is deleted it does not retain the identity.
TRUNCATE: Identity of the column is reset to its seed value.

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.

```
mysql> select scholarshipcategory,count(scholarshipcategory) from subjectscholarshipinformation group by scholarshipcategory order by count(scholarshipcategory) desc;
+---------------------+---------------------------+
| scholarshipcategory | count(scholarshipcategory) |
+---------------------+---------------------------+
| Satisfied           |                         4 |
| Best                |                         2 |
| Good                |                         2 |
| Excellent           |                         2 |
+---------------------+---------------------------+
4 rows in set (0.00 sec)
```

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

```
mysql> select scholarshipcategory,count(scholarshipcategory) as TotalStudents from subjectscholarshipinformation group by scholarshipcategory order by count(scholarshipcategory) desc limit 1;
+---------------------+--------------+
| scholarshipcategory | TotalStudents |
+---------------------+--------------+
| Satisfied           |            4 |
+---------------------+--------------+
1 row in set (0.00 sec)
```

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.

```
mysql> select Info.*,subject.studentmarkspercentage,scholarship.scholarshipamount from
    -> studentbasicinformation info inner join studentsubjectinformation subject inner join subjectscholarshipinformation scholarship on
    -> info.studentrollno = subject.studentrollno and info.studentrollno = scholarship.studentrollno where scholarshipapproval = "Approved"
    -> order by scholarship.scholarshipamount desc,subject.studentmarkspercentage desc limit 1;
+---------------+-------------+---------------+-----------------------------------------+-------------+---------------+----------------+----------------------+-------------------+
| StudentRollNo | StudentName | StudentSurname | StudentAddress                          | StudentDOB  | StudentGender | StudentMobileNo | studentmarkspercentage | scholarshipamount |
+---------------+-------------+---------------+-----------------------------------------+-------------+---------------+----------------+----------------------+-------------------+
| 1             | Nisarg      | Shah          | B1 Vrajdham Society, Waghodia Road, Vadodara | 1998-03-20 | Male          | 6354658037     |                84.00 |         10000.000 |
+---------------+-------------+---------------+-----------------------------------------+-------------+---------------+----------------+----------------------+-------------------+
1 row in set (0.00 sec)
```

20. Difference between the Triggers, Stored Procedures, Views and Functions.
->Triggers: It is a kind of procedure which automatically invokes whenever a special event in the database occurs like insertion, updation in a table.

Syntax:
create trigger [trigger_name]
[before | after]
{insert | update | delete}
on [table_name]
[for each row]
[trigger_body]

->Stored Procedures: It is a prepared code which can be reused again and again.

Example:
delimiter &&
create procedure check_balanceamount_by_rollno(rollNo varchar(10))
BEGIN
select amountbalance from studentadmissionpaymentdetails where studentrollno = rollNo;
END&&
delimiter ;

->Views: They are virtual tables that do not store any data of their own but display data stored in other tables.

Example:
create view payment_due as select studentbasicinformation.*, amountbalance from studentbasicinformation natural join studentadmissionpaymentdetails;

->Functions: It is a set of sql statements, which can take only input and always returns an output. It can only perform select operations.

Syntax:
CREATE [AGGREGATE] FUNCTION function_name
RETURNS {STRING|INTEGER|REAL|DECIMAL}
SONAME shared_library_name