SQL LAB – 2

BY

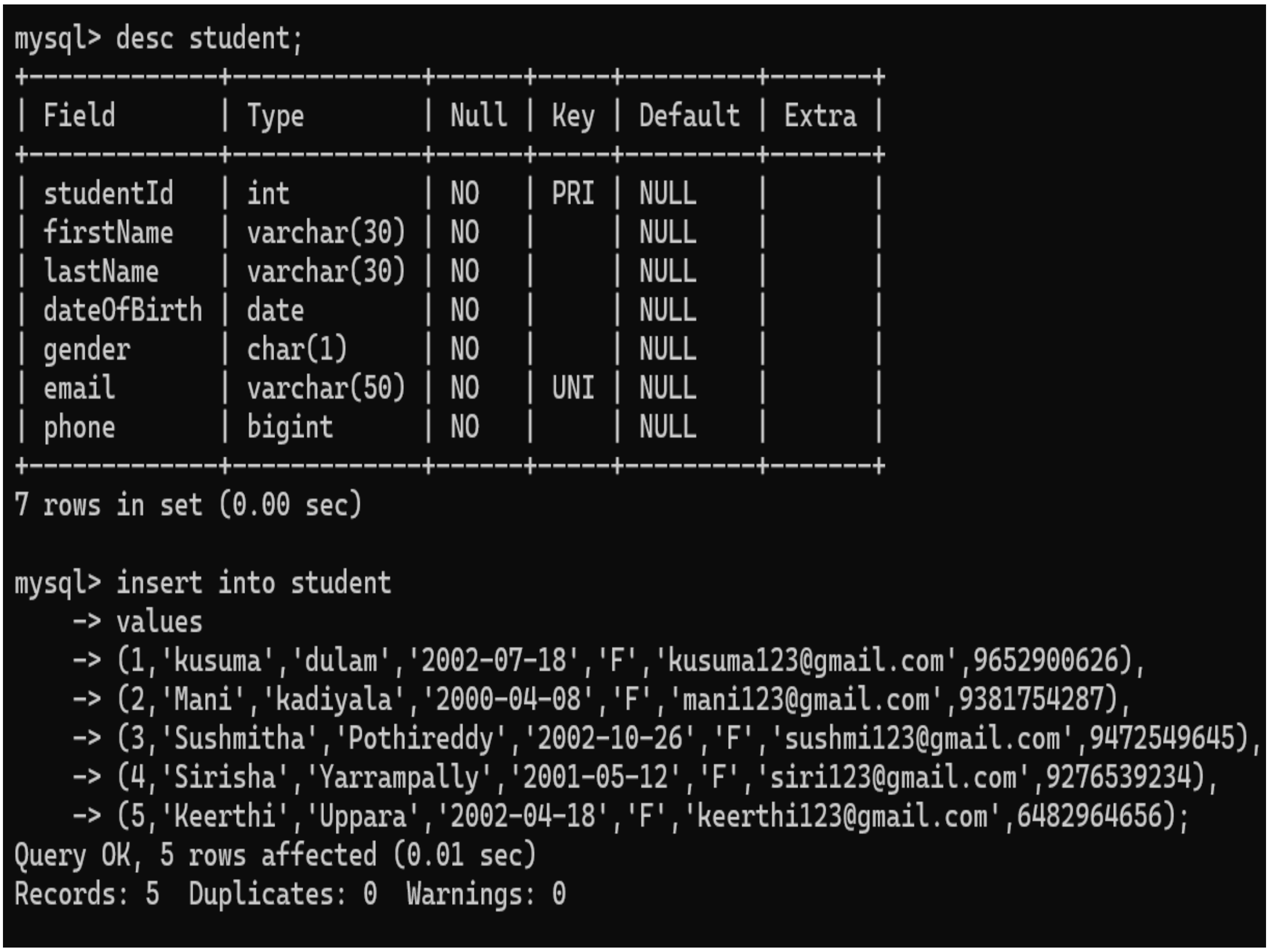
Revanth Derangula
AF0366973

Questions

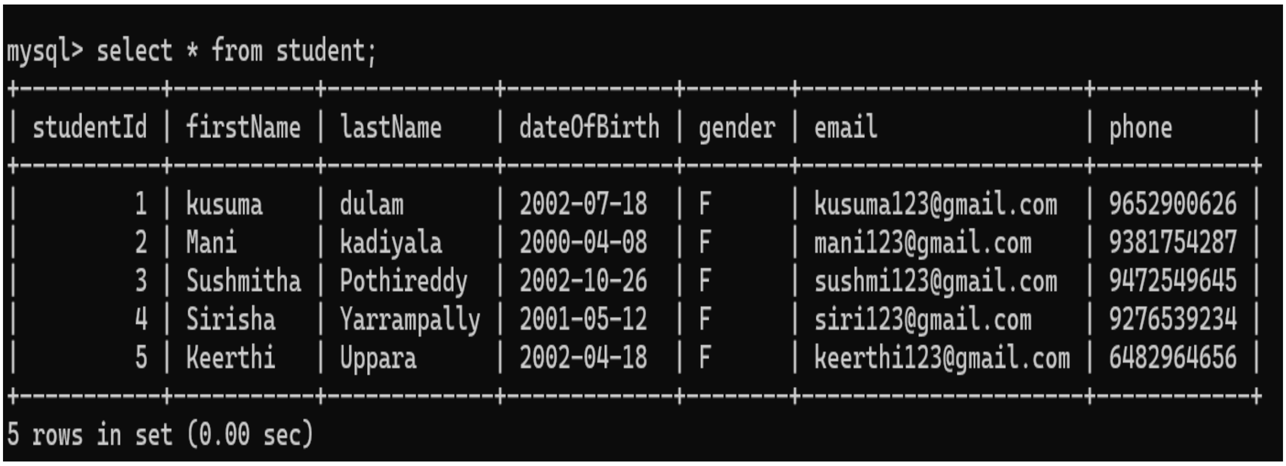
Use the Database and table from Day 1 lab. Insert 5 records in each table

and retrieve data from all tables and display.

Table1: Student

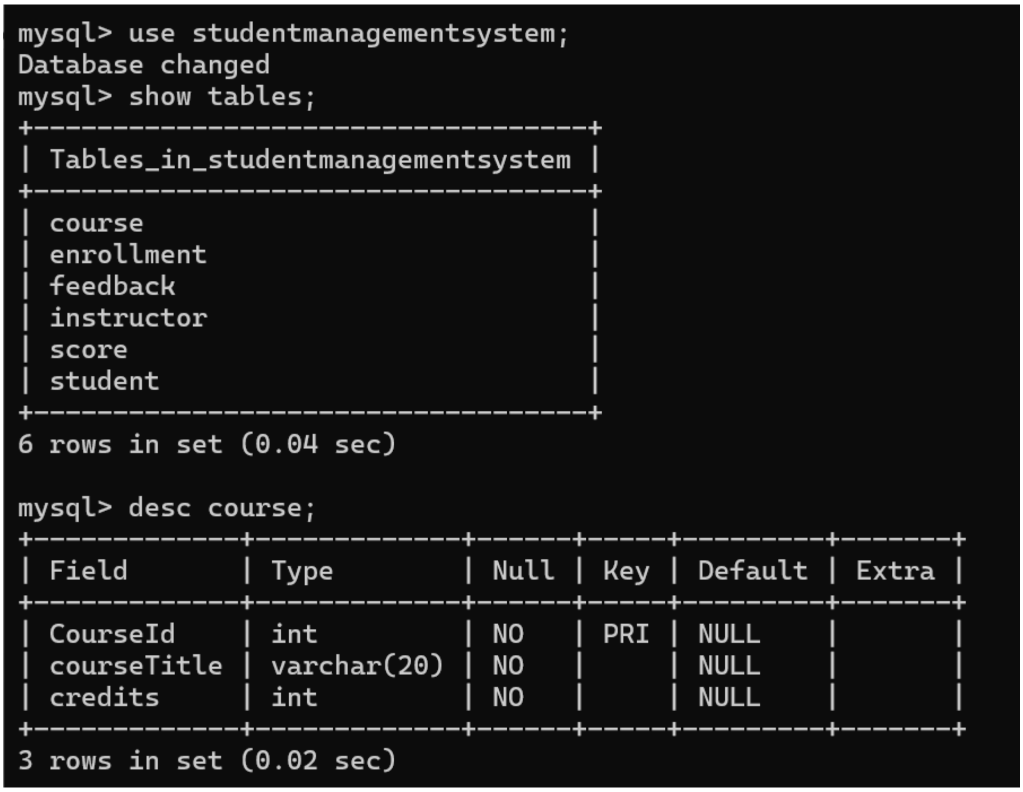


```
mysql> desc student;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| studentId   | int         | NO   | PRI | NULL    |       |
| firstName   | varchar(30) | NO   |     | NULL    |       |
| lastName    | varchar(30) | NO   |     | NULL    |       |
| dateOfBirth | date        | NO   |     | NULL    |       |
| gender      | char(1)     | NO   |     | NULL    |       |
| email       | varchar(50) | NO   | UNI | NULL    |       |
| phone       | bigint      | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
7 rows in set (0.00 sec)

mysql> insert into student
    -> values
    -> (1,'kusuma','dulam','2002-07-18','F','kusuma123@gmail.com',9652900626),
    -> (2,'Mani','kadiyala','2000-04-08','F','mani123@gmail.com',9381754287),
    -> (3,'Sushmitha','Pothireddy','2002-10-26','F','sushmi123@gmail.com',9472549645),
    -> (4,'Sirisha','Yarrampally','2001-05-12','F','siri123@gmail.com',9276539234),
    -> (5,'Keerthi','Uppara','2002-04-18','F','keerthi123@gmail.com',6482964656);
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

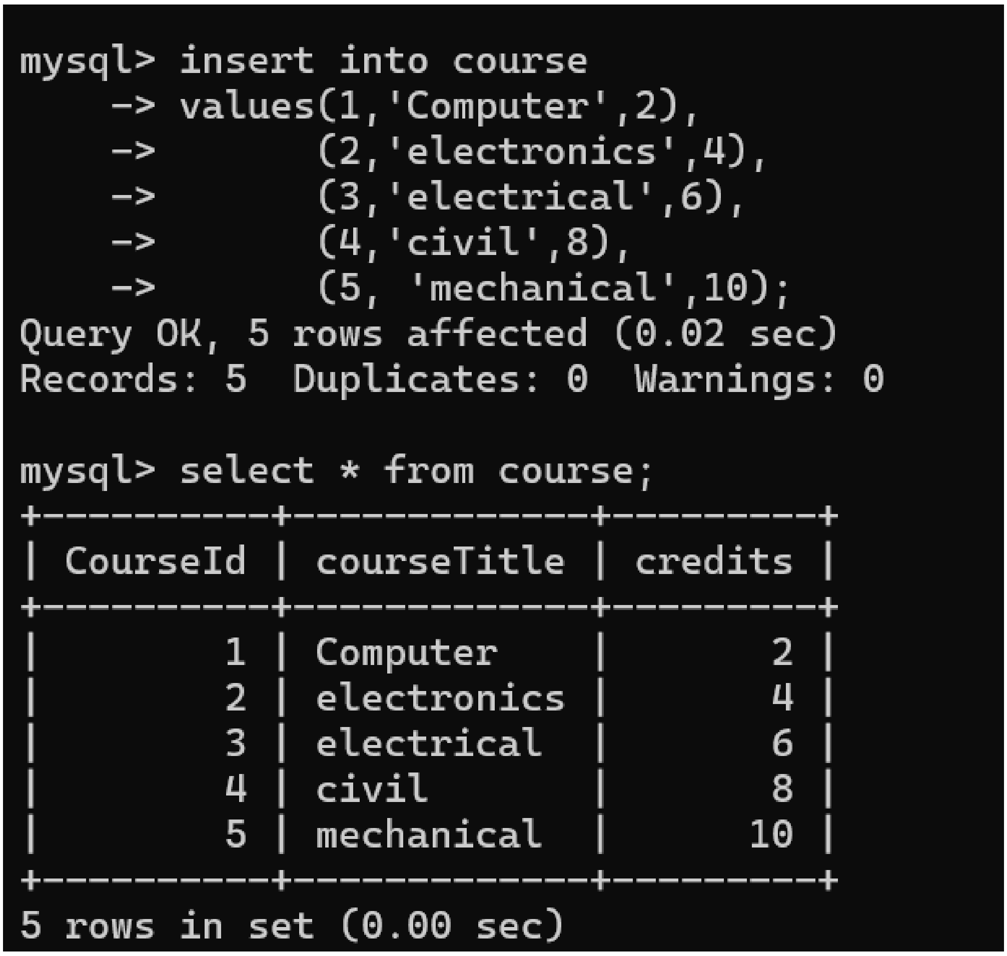


```
mysql> select * from student;
+-----------+-----------+-------------+-------------+--------+----------------------+------------+
| studentId | firstName | lastName    | dateOfBirth | gender | email                | phone      |
+-----------+-----------+-------------+-------------+--------+----------------------+------------+
|         1 | kusuma    | dulam       | 2002-07-18  | F      | kusuma123@gmail.com  | 9652900626 |
|         2 | Mani      | kadiyala    | 2000-04-08  | F      | mani123@gmail.com    | 9381754287 |
|         3 | Sushmitha | Pothireddy  | 2002-10-26  | F      | sushmi123@gmail.com  | 9472549645 |
|         4 | Sirisha   | Yarrampally | 2001-05-12  | F      | siri123@gmail.com    | 9276539234 |
|         5 | Keerthi   | Uppara      | 2002-04-18  | F      | keerthi123@gmail.com | 6482964656 |
+-----------+-----------+-------------+-------------+--------+----------------------+------------+
5 rows in set (0.00 sec)
```

Table2: Course

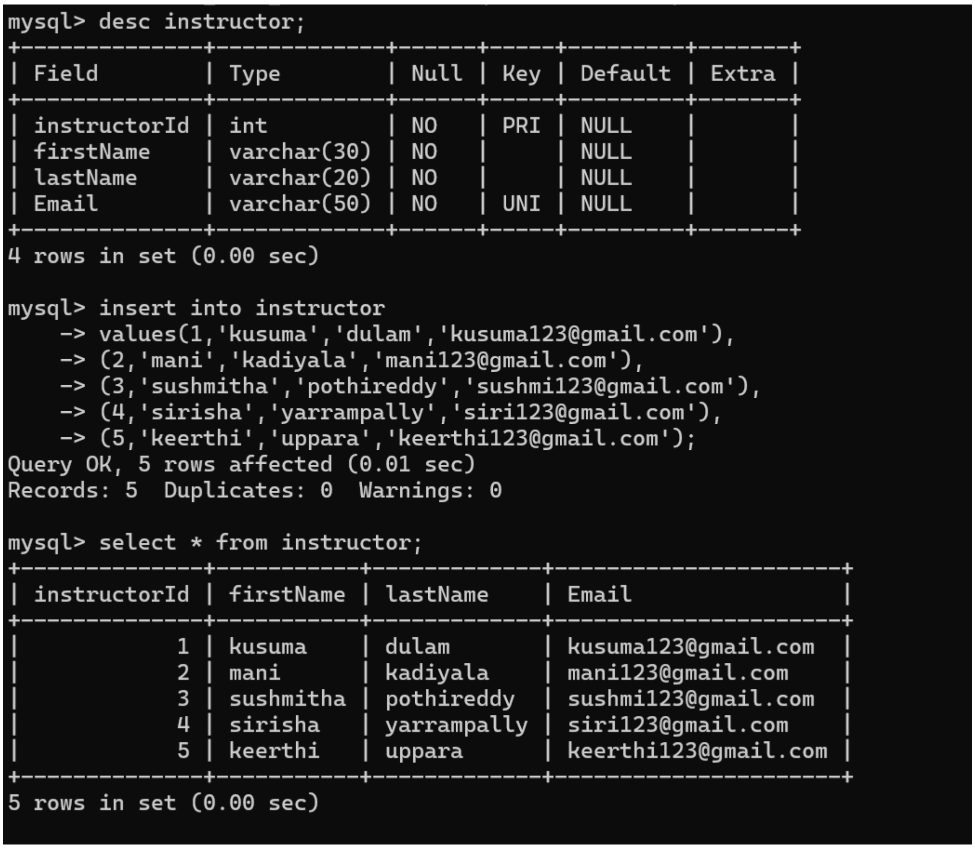


```
mysql> use studentmanagementsystem;
Database changed
mysql> show tables;
+-----------------------------------+
| Tables_in_studentmanagementsystem |
+-----------------------------------+
| course                            |
| enrollment                        |
| feedback                          |
| instructor                        |
| score                             |
| student                           |
+-----------------------------------+
6 rows in set (0.04 sec)

mysql> desc course;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| CourseId    | int         | NO   | PRI | NULL    |       |
| courseTitle | varchar(20) | NO   |     | NULL    |       |
| credits     | int         | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.02 sec)
```



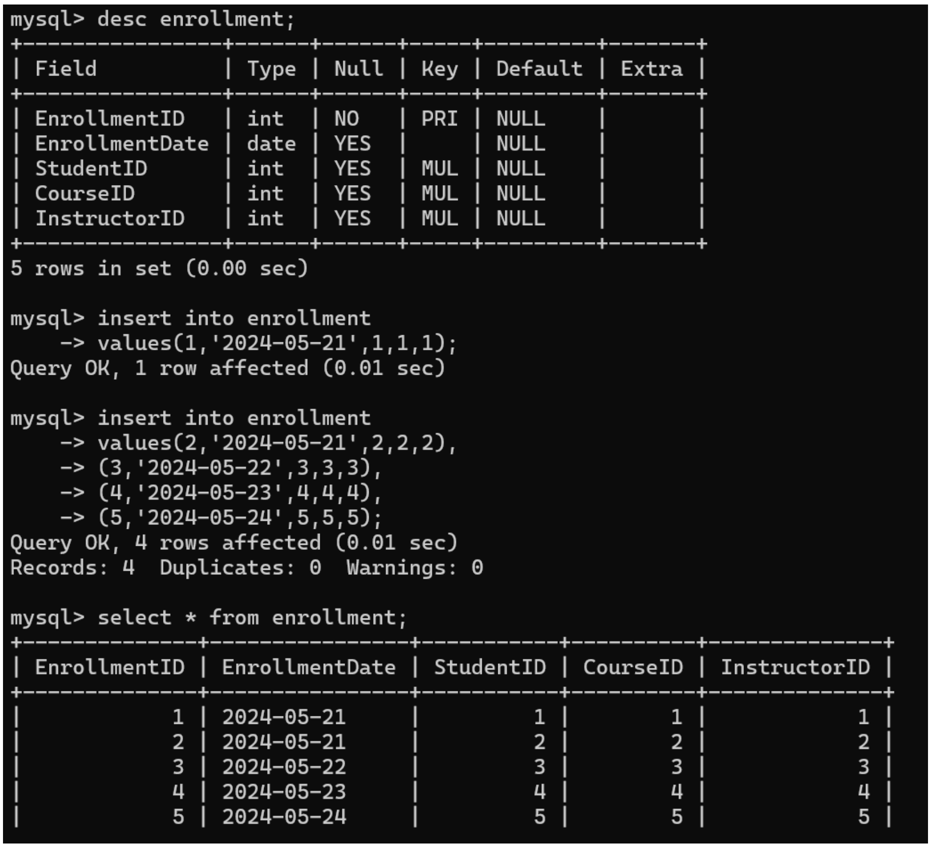
```
mysql> insert into course
    -> values(1,'Computer',2),
    ->       (2,'electronics',4),
    ->       (3,'electrical',6),
    ->       (4,'civil',8),
    ->       (5, 'mechanical',10);
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from course;
+----------+-------------+---------+
| CourseId | courseTitle | credits |
+----------+-------------+---------+
|        1 | Computer    |       2 |
|        2 | electronics |       4 |
|        3 | electrical  |       6 |
|        4 | civil       |       8 |
|        5 | mechanical  |      10 |
+----------+-------------+---------+
5 rows in set (0.00 sec)
```

Table3: Instructor



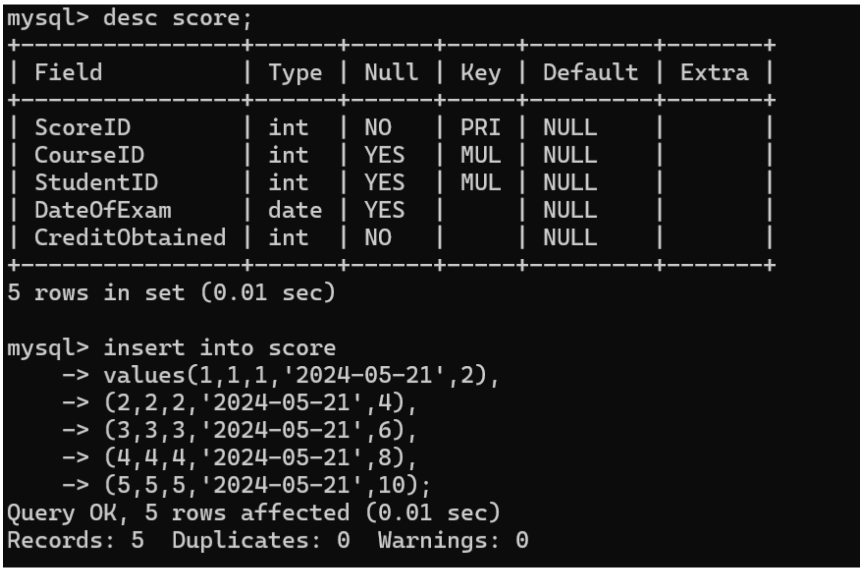
```
mysql> desc instructor;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| instructorId | int         | NO   | PRI | NULL    |       |
| firstName    | varchar(30) | NO   |     | NULL    |       |
| lastName     | varchar(20) | NO   |     | NULL    |       |
| Email        | varchar(50) | NO   | UNI | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> insert into instructor
    -> values(1,'kusuma','dulam','kusuma123@gmail.com'),
    -> (2,'mani','kadiyala','mani123@gmail.com'),
    -> (3,'sushmitha','pothireddy','sushmi123@gmail.com'),
    -> (4,'sirisha','yarrampally','siri123@gmail.com'),
    -> (5,'keerthi','uppara','keerthi123@gmail.com');
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from instructor;
+--------------+-----------+-------------+----------------------+
| instructorId | firstName | lastName    | Email                |
+--------------+-----------+-------------+----------------------+
|            1 | kusuma    | dulam       | kusuma123@gmail.com  |
|            2 | mani      | kadiyala    | mani123@gmail.com    |
|            3 | sushmitha | pothireddy  | sushmi123@gmail.com  |
|            4 | sirisha   | yarrampally | siri123@gmail.com    |
|            5 | keerthi   | uppara      | keerthi123@gmail.com |
+--------------+-----------+-------------+----------------------+
5 rows in set (0.00 sec)
```

Table4: Enrollment

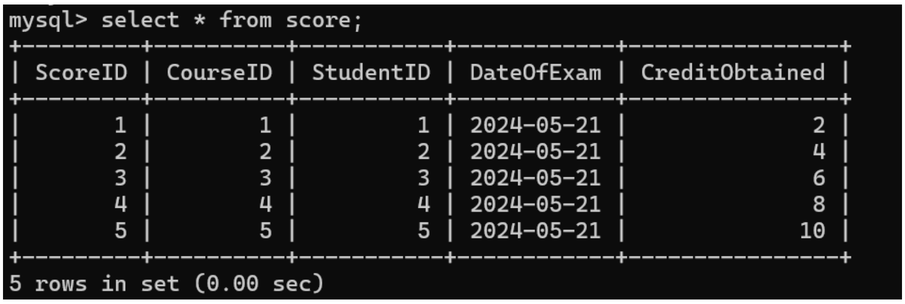


```
mysql> desc enrollment;
+----------------+------+------+-----+---------+-------+
| Field          | Type | Null | Key | Default | Extra |
+----------------+------+------+-----+---------+-------+
| EnrollmentID   | int  | NO   | PRI | NULL    |       |
| EnrollmentDate | date | YES  |     | NULL    |       |
| StudentID      | int  | YES  | MUL | NULL    |       |
| CourseID       | int  | YES  | MUL | NULL    |       |
| InstructorID   | int  | YES  | MUL | NULL    |       |
+----------------+------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> insert into enrollment
    -> values(1,'2024-05-21',1,1,1);
Query OK, 1 row affected (0.01 sec)

mysql> insert into enrollment
    -> values(2,'2024-05-21',2,2,2),
    -> (3,'2024-05-22',3,3,3),
    -> (4,'2024-05-23',4,4,4),
    -> (5,'2024-05-24',5,5,5);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from enrollment;
+--------------+----------------+-----------+----------+--------------+
| EnrollmentID | EnrollmentDate | StudentID | CourseID | InstructorID |
+--------------+----------------+-----------+----------+--------------+
|            1 | 2024-05-21     |         1 |        1 |            1 |
|            2 | 2024-05-21     |         2 |        2 |            2 |
|            3 | 2024-05-22     |         3 |        3 |            3 |
|            4 | 2024-05-23     |         4 |        4 |            4 |
|            5 | 2024-05-24     |         5 |        5 |            5 |
```

Table5: Score

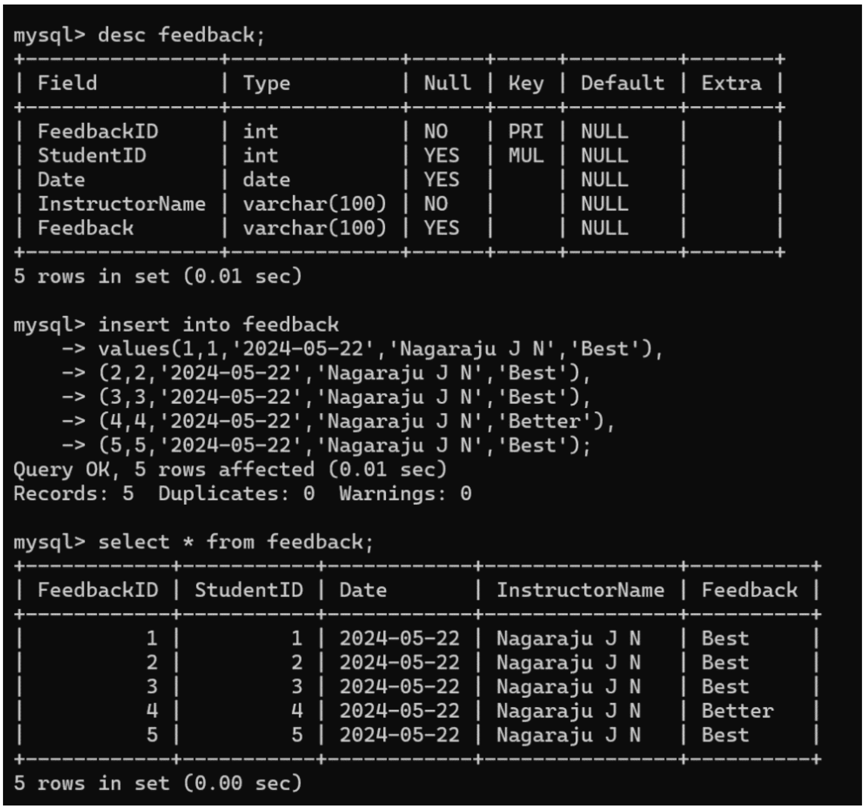


```
mysql> desc score;
+----------------+------+------+-----+---------+-------+
| Field          | Type | Null | Key | Default | Extra |
+----------------+------+------+-----+---------+-------+
| ScoreID        | int  | NO   | PRI | NULL    |       |
| CourseID       | int  | YES  | MUL | NULL    |       |
| StudentID      | int  | YES  | MUL | NULL    |       |
| DateOfExam     | date | YES  |     | NULL    |       |
| CreditObtained | int  | NO   |     | NULL    |       |
+----------------+------+------+-----+---------+-------+
5 rows in set (0.01 sec)

mysql> insert into score
    -> values(1,1,1,'2024-05-21',2),
    -> (2,2,2,'2024-05-21',4),
    -> (3,3,3,'2024-05-21',6),
    -> (4,4,4,'2024-05-21',8),
    -> (5,5,5,'2024-05-21',10);
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0
```



```
mysql> select * from score;
+---------+----------+-----------+------------+----------------+
| ScoreID | CourseID | StudentID | DateOfExam | CreditObtained |
+---------+----------+-----------+------------+----------------+
|       1 |        1 |         1 | 2024-05-21 |              2 |
|       2 |        2 |         2 | 2024-05-21 |              4 |
|       3 |        3 |         3 | 2024-05-21 |              6 |
|       4 |        4 |         4 | 2024-05-21 |              8 |
|       5 |        5 |         5 | 2024-05-21 |             10 |
+---------+----------+-----------+------------+----------------+
5 rows in set (0.00 sec)
```

Table6: feedback



```
mysql> desc feedback;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| FeedbackID     | int          | NO   | PRI | NULL    |       |
| StudentID      | int          | YES  | MUL | NULL    |       |
| Date           | date         | YES  |     | NULL    |       |
| InstructorName | varchar(100) | NO   |     | NULL    |       |
| Feedback       | varchar(100) | YES  |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
5 rows in set (0.01 sec)

mysql> insert into feedback
    -> values(1,1,'2024-05-22','Nagaraju J N','Best'),
    -> (2,2,'2024-05-22','Nagaraju J N','Best'),
    -> (3,3,'2024-05-22','Nagaraju J N','Best'),
    -> (4,4,'2024-05-22','Nagaraju J N','Better'),
    -> (5,5,'2024-05-22','Nagaraju J N','Best');
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from feedback;
+------------+-----------+------------+----------------+----------+
| FeedbackID | StudentID | Date       | InstructorName | Feedback |
+------------+-----------+------------+----------------+----------+
|          1 |         1 | 2024-05-22 | Nagaraju J N   | Best     |
|          2 |         2 | 2024-05-22 | Nagaraju J N   | Best     |
|          3 |         3 | 2024-05-22 | Nagaraju J N   | Best     |
|          4 |         4 | 2024-05-22 | Nagaraju J N   | Better   |
|          5 |         5 | 2024-05-22 | Nagaraju J N   | Best     |
+------------+-----------+------------+----------------+----------+
5 rows in set (0.00 sec)
```

Chatgpt Question:

Generating a normalized table using ChatGPT as a continuation of our earlier

ChatGPT scenario.

Put the below statement in the message box and see what ChatGPT says:

I have created a database of emergency contact information. Kindly help me by

providing normalized tables with understanding.

I got following information from chatgpt

Creating a normalized database for emergency contact information involves organizing the data into multiple related tables to reduce redundancy and improve data integrity. Here’s an outline of what the normalized tables could look like along with explanations for each.

Assumptions:

1. Each individual may have multiple emergency contacts.
2. Each contact might be connected to multiple individuals (e.g., in the case of family members).
3. Contacts may have various types of relationships with the individuals.
4. Address information might be necessary for contacts.

First Normal Form (1NF)

1. **Individuals**: To store the personal details of the individuals.
2. **Contacts**: To store the details of the emergency contacts.
3. **IndividualContacts**: To store the relationships between individuals and their contacts.

Tables and Structures

1. Individuals

- **Table Name**: **Individuals**
- **Columns**:
  - **IndividualID** (Primary Key, unique identifier for each individual)
  - **FirstName**
  - **LastName**
  - **DateOfBirth**
  - **PhoneNumber**
  - **Email**
  - **Address**

2. Contacts

- **Table Name**: **Contacts**
- **Columns**:
  - **ContactID** (Primary Key, unique identifier for each contact)
  - **FirstName**
  - **LastName**
  - **PhoneNumber**
  - **Email**
  - **RelationshipType** (e.g., parent, sibling, friend)
  - **Address**

3. IndividualContacts

- **Table Name**: **IndividualContacts**
- **Columns**:

  - **IndividualContactID** (Primary Key, unique identifier for each relationship entry)
  - **IndividualID** (Foreign Key, references **Individuals(IndividualID)**)
  - **ContactID** (Foreign Key, references **Contacts(ContactID)**)
  - **RelationshipType** (e.g., primary contact, secondary contact)

- **Example Data Entries**
- **Individuals Table**

IndividualID	FirstName	LastName	DateOfBirth	PhoneNumber	Email	Address
1	John	Doe	1980-01-01	123-456-7890	john.doe@example.com	123 Elm St, City, ST

Contacts Table

ContactID	First Name	Last Name	PhoneNumber	Email	RelationshipType	Address
1	Jane	Doe	234-567-8901	jane.doe@example.com	Mother	456 Oak St, City, ST
2	Mike	Smith	345-678-9012	mike.smith@example.com	Friend	789 Pine St, City, ST

IndividualContacts Table

IndividualContactID	IndividualID	ContactID	RelationshipType
1	1	1	Primary
2	1	2	Secondary

Explanation

- **Individuals Table**: Contains information about the individuals for whom the emergency contacts are being recorded.
- **Contacts Table**: Stores contact information of the emergency contacts.
- **IndividualContacts Table**: Manages the many-to-many relationship between individuals and their contacts, allowing each individual to have multiple contacts and each contact to be associated with multiple individuals if needed. It also specifies the nature of each relationship.

By following this normalization process, you reduce redundancy (e.g., not repeating contact details for each individual) and maintain data integrity, ensuring that updates to contact information need only be made in one place.