

Name: Prमित Sil

Roll no: 24

Enrollment No: ADT23SOCB1544

## Department of Information Technology

### Database Management System Lab

#### Assignment Number: 2 (A)

#### Title:

Implement a database using MySQL(DDL,DML)

#### Problem statement :

Using the ER diagram drawn in Assignment 1, Create a database called LibraryDb .

#### Objective:

1. To Understand Design of Databases.
2. To understand and execute a few DDL and DML statements, clauses using SQL.

#### Queries:

1. Show the structure of the Book master table

```
mysql> Create database Lib_Manag;
Query OK, 1 row affected (0.01 sec)

mysql> use Lib_Manag;
Database changed
mysql> Create Table Book_Master(
-> MB_ID INT PRIMARY KEY,
-> Title VARCHAR(50),
-> Author VARCHAR(100),
-> ISBN VARCHAR(50),
-> Category VARCHAR(50),
-> B_Count INT,
-> Available_Book INT
-> );
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> Describe Book_Master;
```

Field	Type	Null	Key	Default	Extra
MB_ID	int	NO	PRI	NULL	
Title	varchar(50)	YES		NULL	
Author	varchar(100)	YES		NULL	
ISBN	varchar(50)	YES		NULL	
Category	varchar(50)	YES		NULL	
B_Count	int	YES		NULL	
Available_Book	int	YES		NULL	

```
7 rows in set (0.00 sec)
```

## 2. Show the students information

```
mysql> use lib_manag
Database changed
mysql> Create Table Student(
  -> S_ID VARCHAR(20) PRIMARY KEY,
  -> Name VARCHAR(50),
  -> Email VARCHAR(50),
  -> Mobile_No BIGINT,
  -> DOB DATE
  -> );
Query OK, 0 rows affected (0.03 sec)

mysql> Describe Student;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| S_ID | varchar(20) | NO | PRI | NULL | |
| Name | varchar(50) | YES | | NULL | |
| Email | varchar(50) | YES | | NULL | |
| Mobile_No | bigint | YES | | NULL | |
| DOB | date | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> INSERT INTO Student Values
  -> ('B1500', 'Aarav Sharma', 'aarav.sharma@example.com', 9876543210, '2000-01-15'),
  -> ('B1501', 'Vivaan Patel', 'vivaan.patel@example.com', 9123456789, '1999-02-20'),
  -> ('B1502', 'Aditya Verma', 'aditya.verma@example.com', 9988776655, '2001-03-10'),
  -> ('B1503', 'Vihaan Gupta', 'vihaan.gupta@example.com', 9871234567, '2002-04-25'),
  -> ('B1504', 'Arjun Rao', 'arjun.rao@example.com', 9988776655, '1998-05-30'),
  -> ('B1505', 'Sai Kumar', 'sai.kumar@example.com', 9876543210, '2000-06-15'),
  -> ('B1506', 'Reyansh Singh', 'reyansh.singh@example.com', 9123456789, '2003-07-20'),
  -> ('B1507', 'Krishna Iyer', 'krishna.iyer@example.com', 9988776655, '1997-08-05'),
  -> ('B1508', 'Rohan Mehta', 'rohan.mehta@example.com', 9871234567, '2001-09-12'),
  -> ('B1509', 'Anaya Joshi', 'anaya.joshi@example.com', 9123456789, '2002-10-30');
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> Select * From Studnet;
ERROR 1146 (42S02): Table 'lib_manag.studnet' doesn't exist
mysql> Select * FROM Student;
+-----+-----+-----+-----+-----+
| S_ID | Name | Email | Mobile_No | DOB |
+-----+-----+-----+-----+-----+
| B1500 | Aarav Sharma | aarav.sharma@example.com | 9876543210 | 2000-01-15 |
| B1501 | Vivaan Patel | vivaan.patel@example.com | 9123456789 | 1999-02-20 |
| B1502 | Aditya Verma | aditya.verma@example.com | 9988776655 | 2001-03-10 |
| B1503 | Vihaan Gupta | vihaan.gupta@example.com | 9871234567 | 2002-04-25 |
| B1504 | Arjun Rao | arjun.rao@example.com | 9988776655 | 1998-05-30 |
| B1505 | Sai Kumar | sai.kumar@example.com | 9876543210 | 2000-06-15 |
| B1506 | Reyansh Singh | reyansh.singh@example.com | 9123456789 | 2003-07-20 |
| B1507 | Krishna Iyer | krishna.iyer@example.com | 9988776655 | 1997-08-05 |
| B1508 | Rohan Mehta | rohan.mehta@example.com | 9871234567 | 2001-09-12 |
| B1509 | Anaya Joshi | anaya.joshi@example.com | 9123456789 | 2002-10-30 |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

## 3. List the Title, authors of the book along with Domain/category

```
mysql> describe book_master;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| MB_ID | int | NO | PRI | NULL | |
| Title | varchar(50) | YES | | NULL | |
| Author | varchar(100) | YES | | NULL | |
| ISBN | varchar(50) | YES | | NULL | |
| Category | varchar(50) | YES | | NULL | |
| B_Count | int | YES | | NULL | |
| Available_Book | int | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> Insert Into Book_master values
  -> (1, 'Database Management Systems', 'Raghu Ramakrishnan', '9780071232516', 'Database', 50, 23),
  -> (2, 'Computer Networking: A Top-Down Approach', 'James F. Kurose', '9780134734804', 'Networking', 20, 13),
  -> (3, 'Introduction to Algorithms', 'Thomas H. Cormen', '9780262033848', 'Algorithms', 30, 20),
  -> (4, 'Engineering Mechanics: Dynamics', 'J.L. Meriam', '9781119072020', 'Engineering', 10, 5),
  -> (5, 'Thermodynamics: An Engineering Approach', 'Yunus Cengel', '9780073383174', 'Engineering', 23, 15),
  -> (6, 'Control Systems Engineering', 'Norman S. Nise', '9781119471207', 'Engineering', 32, 30),
  -> (7, 'Structural Analysis', 'Russell C. Hibbeler', '9780134610672', 'Engineering', 78, 45),
  -> (8, 'Fluid Mechanics', 'Frank M. White', '9780077472360', 'Engineering', 123, 100),
  -> (9, 'Electrical Engineering: Principles & Applications', 'Allan R. Hambley', '9780133961600', 'Engineering', 13, 5),
  -> (10, 'Materials Science and Engineering: An Introduction', 'William D. Callister', '9781119471153', 'Engineering', 19, 10);
Query OK, 10 rows affected (0.00 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> Select Title, Author, Category From Book_Master;
+-----+-----+-----+
| Title | Author | Category |
+-----+-----+-----+
| Database Management Systems | Raghu Ramakrishnan | Database |
| Computer Networking: A Top-Down Approach | James F. Kurose | Networking |
| Introduction to Algorithms | Thomas H. Cormen | Algorithms |
| Engineering Mechanics: Dynamics | J.L. Meriam | Engineering |
| Thermodynamics: An Engineering Approach | Yunus Cengel | Engineering |
| Control Systems Engineering | Norman S. Nise | Engineering |
| Structural Analysis | Russell C. Hibbeler | Engineering |
| Fluid Mechanics | Frank M. White | Engineering |
| Electrical Engineering: Principles & Applications | Allan R. Hambley | Engineering |
| Materials Science and Engineering: An Introduction | William D. Callister | Engineering |
+-----+-----+-----+
10 rows in set (0.00 sec)
```

4. Add a column Publisher in book master table. (Show the structure of the table.)  
(or any other column in any table)

```
mysql> describe book_master;
```

Field	Type	Null	Key	Default	Extra
MB_ID	int	NO	PRI	NULL	
Title	varchar(50)	YES		NULL	
Author	varchar(100)	YES		NULL	
ISBN	varchar(50)	YES		NULL	
Category	varchar(50)	YES		NULL	
B_Count	int	YES		NULL	
Available_Book	int	YES		NULL	

7 rows in set (0.00 sec)

```
mysql> Alter Table Book_Master
-> Add Column Publisher VARCHAR(50);
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> describe book_master;
```

Field	Type	Null	Key	Default	Extra
MB_ID	int	NO	PRI	NULL	
Title	varchar(50)	YES		NULL	
Author	varchar(100)	YES		NULL	
ISBN	varchar(50)	YES		NULL	
Category	varchar(50)	YES		NULL	
B_Count	int	YES		NULL	
Available_Book	int	YES		NULL	
Publisher	varchar(50)	YES		NULL	

8 rows in set (0.00 sec)

```
mysql> Select * From Book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	Database Management Systems	Raghu Ramakrishnan	9780071232516	Database	50	23	NULL
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	NULL
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	NULL
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472820	Engineering	10	5	NULL
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	NULL
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	NULL
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	NULL
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	NULL
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	NULL
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	NULL

10 rows in set (0.00 sec)

5. Change Publisher values of all the Books (As they are Null now) (or whatever column you have added, change its values)

```
mysql> Select * From Book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	Database Management Systems	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	NULL
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	NULL
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472820	Engineering	10	5	NULL
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	NULL
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	NULL
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	NULL
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	NULL
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	NULL
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	NULL

10 rows in set (0.00 sec)

```
mysql> UPDATE Book_Master SET Publisher = 'Wiley' WHERE Title = 'Database Management Systems';
Query OK, 0 rows affected (0.00 sec)
Rows matched: 1 Changed: 0 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'Pearson' WHERE Title = 'Computer Networking: A Top-Down Approach';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'MIT Press' WHERE Title = 'Introduction to Algorithms';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'Wiley' WHERE Title = 'Engineering Mechanics: Dynamics';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'McGraw-Hill' WHERE Title = 'Thermodynamics: An Engineering Approach';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'Wiley' WHERE Title = 'Control Systems Engineering';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'Pearson' WHERE Title = 'Structural Analysis';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'McGraw-Hill' WHERE Title = 'Fluid Mechanics';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'McGraw-Hill' WHERE Title = 'Electrical Engineering: Principles & Applications';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> UPDATE Book_master SET Publisher = 'Wiley' WHERE Title = 'Materials Science and Engineering: An Introduction';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> Select * From Book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	Database Management Systems	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472028	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

10 rows in set (0.00 sec)

6. List the Title, Domain of the books which are published by “McGraw Hill”.

```
mysql> Select * From Book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	Database Management Systems	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472028	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

10 rows in set (0.00 sec)

```
mysql> Select Title,Category From Book_Master
-> Where Publisher='McGraw-Hill';
```

Title	Category
Thermodynamics: An Engineering Approach	Engineering
Fluid Mechanics	Engineering
Electrical Engineering: Principles & Applications	Engineering

3 rows in set (0.00 sec)

7. Remove the student whose id is S121 (make sure he is not taken any book)

```
mysql> use lib_manag
Database changed
mysql> Create Table Student(
-> S_ID VARCHAR(20) PRIMARY KEY,
-> Name VARCHAR(50),
-> Email VARCHAR(50),
-> Mobile_No BIGINT,
-> DOB DATE
-> );
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> Describe Student;
```

Field	Type	Null	Key	Default	Extra
S_ID	varchar(20)	NO	PRI	NULL	
Name	varchar(50)	YES		NULL	
Email	varchar(50)	YES		NULL	
Mobile_No	bigint	YES		NULL	
DOB	date	YES		NULL	

5 rows in set (0.00 sec)

```
mysql> Select * From Student;
```

S_ID	Name	Email	Mobile_No	DOB
B1500	Aarav Sharma	aarav.sharma@gmail.com	9876543210	2000-01-15
B1501	Vivaan Patel	vivaan.patel@gmail.com	9123456789	1999-02-20
B1502	Aditya Verma	aditya.verma@gmail.com	9988776655	2001-03-10
B1503	Vihaan Gupta	vihaan.gupta@gmail.com	9871234567	2002-04-25
B1504	Arjun Rao	arjun.rao@gmail.com	9988776655	1998-05-30
B1505	Sai Kumar	sai.kumar@gmail.com	9876543210	2000-06-15
B1506	Reyansh Singh	reyansh.singh@gmail.com	9123456789	2003-07-20
B1507	Krishna Iyer	krishna.iyer@gmail.com	9988776655	1997-08-05
B1508	Rohan Mehta	rohan.mehta@gmail.com	9871234567	2001-09-12
B1509	Anaya Joshi	anaya.joshi@gmail.com	9123456789	2002-10-30

10 rows in set (0.00 sec)

```
mysql> DELETE FROM Student WHERE S_ID = 'B1502';
Query OK, 1 row affected (0.00 sec)
```

## 8. Change the Title of the book “FML” to “Fundamentals of Machine Learning”

```
mysql> Select * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	Database Management Systems	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

10 rows in set (0.00 sec)

```
mysql> Update Book_master
-> Set Title = 'DBMS'
-> WHERE Title = 'Database Management Systems';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> Select * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

10 rows in set (0.00 sec)

## 9. List the Names(Titles) of the books and author name related to Cloud domain.

```
mysql> Select * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

10 rows in set (0.00 sec)

```
mysql> Select Title,Author From Book_Master
-> Where Category='Engineering';
```

Title	Author
Engineering Mechanics: Dynamics	J.L. Meriam
Thermodynamics: An Engineering Approach	Yunus Çengel
Control Systems Engineering	Norman S. Nise
Structural Analysis	Russell C. Hibbeler
Fluid Mechanics	Frank M. White
Electrical Engineering: Principles & Applications	Allan R. Hambley
Materials Science and Engineering: An Introduction	William D. Callister

7 rows in set (0.00 sec)

## 10. List the names of books whose number of copies are less than 5.

```
mysql> Select *From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

10 rows in set (0.00 sec)

```
mysql> Select Title From Book_master
-> Where B_Count<=5;
```

Title
Computer Networking: A Top-Down Approach
Engineering Mechanics: Dynamics
Thermodynamics: An Engineering Approach
Electrical Engineering: Principles & Applications
Materials Science and Engineering: An Introduction

5 rows in set (0.00 sec)

11. List the student Names whose names either start or end with “N”.

```
mysql> Select * From Student;
```

S_ID	Name	Email	Mobile_No	DOB
B1500	Aarav Sharma	aarav.sharma@gmail.com	9876543210	2000-01-15
B1501	Vivaan Patel	vivaan.patel@gmail.com	9123456789	1999-02-20
B1503	Vihaan Gupta	vihaan.gupta@gmail.com	9871234567	2002-04-25
B1504	Arjun Rao	arjun.rao@gmail.com	9988776655	1998-05-30
B1505	Sai Kumar	sai.kumar@gmail.com	9876543210	2000-06-15
B1506	Reyansh Singh	reyansh.singh@gmail.com	9123456789	2003-07-20
B1507	Krishna Iyer	krishna.iyer@gmail.com	9988776655	1997-08-05
B1508	Rohan Mehta	rohan.mehta@gmail.com	9871234567	2001-09-12
B1509	Anaya Joshi	anaya.joshi@gmail.com	9123456789	2002-10-30

```
9 rows in set (0.00 sec)
```

```
mysql> SELECT Name FROM Student
-> WHERE Name LIKE '%Sharma' OR Name LIKE 'Su%';
```

Name
Aarav Sharma

```
1 row in set (0.00 sec)
```

12. List the Book Names whose names contains ‘database’ in their title.

```
mysql> Select * From Book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9788071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9788134734884	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Cengel	9788073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9788134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9788077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9788133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
10 rows in set (0.00 sec)
```

```
mysql> Select Title From Book_Master
-> Where Title Like '%Engineering%';
```

Title
Engineering Mechanics: Dynamics
Thermodynamics: An Engineering Approach
Control Systems Engineering
Electrical Engineering: Principles & Applications
Materials Science and Engineering: An Introduction

```
5 rows in set (0.00 sec)
```

13. What is the count of the books which are issued but not returned yet?

```
mysql> CREATE TABLE Book_Transaction (
-> Transaction_ID VARCHAR(10) PRIMARY KEY,
-> Sid VARCHAR(10),
-> Bk_ID INT,
-> IssuedDate DATE,
-> ReturnedDate DATE,
-> FOREIGN KEY (Bk_ID) REFERENCES Book_Master(MB_ID),
-> FOREIGN KEY (Sid) REFERENCES Student(S_ID)
-> );
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO Book_Transaction
-> VALUES
-> ('T1001', 'B1500', '1', '2025-01-10', '2025-01-20'),
-> ('T1002', 'B1501', '2', '2025-01-15', '2025-01-25'),
-> ('T1003', 'B1503', '3', '2025-01-12', '2025-01-22'),
-> ('T1004', 'B1504', '4', '2025-01-18', '2025-01-28'),
-> ('T1005', 'B1505', '5', '2025-01-20', NULL),
-> ('T1006', 'B1506', '6', '2025-01-14', '2025-01-24'),
-> ('T1007', 'B1507', '7', '2025-01-11', '2025-01-21'),
-> ('T1008', 'B1508', '8', '2025-01-17', NULL),
-> ('T1009', 'B1509', '9', '2025-01-13', '2025-01-23');
Query OK, 9 rows affected (0.01 sec)
Records: 9 Duplicates: 0 Warnings: 0
```

```
mysql> Select *From Book_Transaction;
```

Transaction_ID	Sid	Bk_ID	IssuedDate	ReturnedDate
T1001	B1500	1	2025-01-10	2025-01-20
T1002	B1501	2	2025-01-15	2025-01-25
T1003	B1503	3	2025-01-12	2025-01-22
T1004	B1504	4	2025-01-18	2025-01-28
T1005	B1505	5	2025-01-20	NULL
T1006	B1506	6	2025-01-14	2025-01-24
T1007	B1507	7	2025-01-11	2025-01-21
T1008	B1508	8	2025-01-17	NULL
T1009	B1509	9	2025-01-13	2025-01-23

```
9 rows in set (0.00 sec)
```

```
mysql> SELECT COUNT(*)
-> FROM Book_Transaction
-> WHERE ReturnedDate IS NULL;
```

COUNT(*)
2

```
1 row in set (0.00 sec)
```

14. Show the Book Names and the author in sorted order of Book Name.

```
mysql> SELECT * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
10 rows in set (0.00 sec)
```

```
mysql> SELECT Title, Author
-> FROM Book_Master
-> ORDER BY Title;
```

Title	Author
Computer Networking: A Top-Down Approach	James F. Kurose
Control Systems Engineering	Norman S. Nise
DBMS	Raghu Ramakrishnan
Electrical Engineering: Principles & Applications	Allan R. Hambley
Engineering Mechanics: Dynamics	J.L. Meriam
Fluid Mechanics	Frank M. White
Introduction to Algorithms	Thomas H. Cormen
Materials Science and Engineering: An Introduction	William D. Callister
Structural Analysis	Russell C. Hibbeler
Thermodynamics: An Engineering Approach	Yunus Çengel

```
10 rows in set (0.00 sec)
```

15. List the names of the books whose available copies are atleast 10.

```
mysql> SELECT * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
10 rows in set (0.00 sec)
```

```
mysql> SELECT Title
-> FROM Book_Master
-> WHERE Available_Book >= 10;
```

Title
DBMS
Computer Networking: A Top-Down Approach
Introduction to Algorithms
Thermodynamics: An Engineering Approach
Control Systems Engineering
Structural Analysis
Fluid Mechanics
Materials Science and Engineering: An Introduction

```
8 rows in set (0.00 sec)
```

16. List the titles which are either written by “Sam Newman” or listed under “Cloud” domain.

```
mysql> SELECT * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
10 rows in set (0.00 sec)
```

```
mysql> SELECT Title, Author, Category
-> FROM Book_Master
-> WHERE Author = 'Russell C. Hibbeler'
-> OR Category = 'Engineering';
```

Title	Author	Category
Engineering Mechanics: Dynamics	J.L. Meriam	Engineering
Thermodynamics: An Engineering Approach	Yunus Çengel	Engineering
Control Systems Engineering	Norman S. Nise	Engineering
Structural Analysis	Russell C. Hibbeler	Engineering
Fluid Mechanics	Frank M. White	Engineering
Electrical Engineering: Principles & Applications	Allan R. Hambley	Engineering
Materials Science and Engineering: An Introduction	William D. Callister	Engineering

```
7 rows in set (0.00 sec)
```

17. List the books names which are written by “Peter Galvin” and listed under the domain “Operating System”.

```
mysql> SELECT * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
10 rows in set (0.00 sec)
```



```
mysql> SELECT Title, Author, Category
-> FROM Book_Master
-> WHERE Author = 'Frank M. White'
-> AND Category = 'Engineering';
```

Title	Author	Category
Fluid Mechanics	Frank M. White	Engineering

```
1 row in set (0.00 sec)
```

18. How many books of 'Introduction to Python Programming' written by 'Rossum' are available in the library as of now? Also find out total number of books of the same title purchased by the library. (Single Query)

```
mysql> SELECT * From Book_master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
10 rows in set (0.00 sec)
```

```
mysql> Select B_Count, Available_Book From Book_master
-> Where Title="DBMS" AND Author="Raghu Ramakrishnan";
```

B_Count	Available_Book
50	23

```
1 row in set (0.00 sec)
```

19. Change the email\_id of the student S222 to [Pravin.Mehta@gmail.com](mailto:Pravin.Mehta@gmail.com).

```
mysql> use lib_manag
Database changed
mysql> select * from student;
```

S_ID	Name	Email	Mobile_No	DOB
B1500	Aarav Sharma	aarav.sharma@gmail.com	9876543210	2000-01-15
B1501	Vivaan Patel	vivaan.patel@gmail.com	9123456789	1999-02-20
B1503	Vihaan Gupta	vihaan.gupta@gmail.com	9871234567	2002-04-25
B1504	Arjun Rao	arjun.rao@gmail.com	9988776655	1998-05-30
B1505	Sai Kumar	sai.kumar@gmail.com	9876543210	2000-06-15
B1506	Reyansh Singh	reyansh.singh@gmail.com	9123456789	2003-07-20
B1507	Krishna Iyer	krishna.iyer@gmail.com	9988776655	1997-08-05
B1508	Rohan Mehta	rohan.mehta@gmail.com	9871234567	2001-09-12
B1509	Anaya Joshi	anaya.joshi@gmail.com	9123456789	2002-10-30

```
9 rows in set (0.00 sec)

mysql> Update Student
-> Set Email="Vivaan@gmail.com"
-> Where S_ID="B1501";
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from student;
```

S_ID	Name	Email	Mobile_No	DOB
B1500	Aarav Sharma	aarav.sharma@gmail.com	9876543210	2000-01-15
B1501	Vivaan Patel	Vivaan@gmail.com	9123456789	1999-02-20
B1503	Vihaan Gupta	vihaan.gupta@gmail.com	9871234567	2002-04-25
B1504	Arjun Rao	arjun.rao@gmail.com	9988776655	1998-05-30
B1505	Sai Kumar	sai.kumar@gmail.com	9876543210	2000-06-15
B1506	Reyansh Singh	reyansh.singh@gmail.com	9123456789	2003-07-20
B1507	Krishna Iyer	krishna.iyer@gmail.com	9988776655	1997-08-05
B1508	Rohan Mehta	rohan.mehta@gmail.com	9871234567	2001-09-12
B1509	Anaya Joshi	anaya.joshi@gmail.com	9123456789	2002-10-30

```
9 rows in set (0.00 sec)
```

## 20. Remove the Books having title “Lotus Basics”;

```
mysql> select * from book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
8	Fluid Mechanics	Frank M. White	9780077472360	Engineering	123	100	McGraw-Hill
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
10 rows in set (0.00 sec)

mysql> DELETE FROM Book_Master
-> WHERE Title = 'Fluid Mechanics';
Query OK, 1 row affected (0.00 sec)

mysql> select * from book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
9 rows in set (0.00 sec)
```

## 21. Display top 10 book name and their Domain in terms of Book count.

```
mysql> select * from book_Master;
```

MB_ID	Title	Author	ISBN	Category	B_Count	Available_Book	Publisher
1	DBMS	Raghu Ramakrishnan	9780071232516	Database	50	23	Wiley
2	Computer Networking: A Top-Down Approach	James F. Kurose	9780134734804	Networking	20	13	Pearson
3	Introduction to Algorithms	Thomas H. Cormen	9780262033848	Algorithms	30	20	MIT Press
4	Engineering Mechanics: Dynamics	J.L. Meriam	9781119472020	Engineering	10	5	Wiley
5	Thermodynamics: An Engineering Approach	Yunus Çengel	9780073383174	Engineering	23	15	McGraw-Hill
6	Control Systems Engineering	Norman S. Nise	9781119471207	Engineering	32	30	Wiley
7	Structural Analysis	Russell C. Hibbeler	9780134610672	Engineering	78	45	Pearson
9	Electrical Engineering: Principles & Applications	Allan R. Hambley	9780133961600	Engineering	13	5	McGraw-Hill
10	Materials Science and Engineering: An Introduction	William D. Callister	9781119471153	Engineering	19	10	Wiley

```
9 rows in set (0.00 sec)
```

```
mysql> SELECT Title,Category From book_Master
-> order by B_Count desc
-> Limit 5;
```

Title	Category
Structural Analysis	Engineering
DBMS	Database
Control Systems Engineering	Engineering
Introduction to Algorithms	Algorithms
Thermodynamics: An Engineering Approach	Engineering

```
5 rows in set (0.00 sec)
```

22. Create a table fine\_paid with sid,amount as fields.  
Add 2 records. Display them.  
Delete sid column. Display records.  
And finally delete the entire table along with records. Check whether it is deleted or Not.

```
mysql> CREATE TABLE fine_paid (
->     sid VARCHAR(10),
->     amount DECIMAL(10, 2)
-> );
Query OK, 0 rows affected (0.02 sec)

mysql> Select * From fine_paid;
Empty set (0.00 sec)

mysql> INSERT INTO fine_paid (sid, amount) VALUES
-> ('B1500', 50.00),
-> ('B1501', 100.00);
Query OK, 2 rows affected (0.00 sec)
Records: 2  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM fine_paid;
+-----+-----+
| sid   | amount |
+-----+-----+
| B1500 | 50.00  |
| B1501 | 100.00 |
+-----+-----+
2 rows in set (0.00 sec)

mysql> ALTER TABLE fine_paid DROP COLUMN sid;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

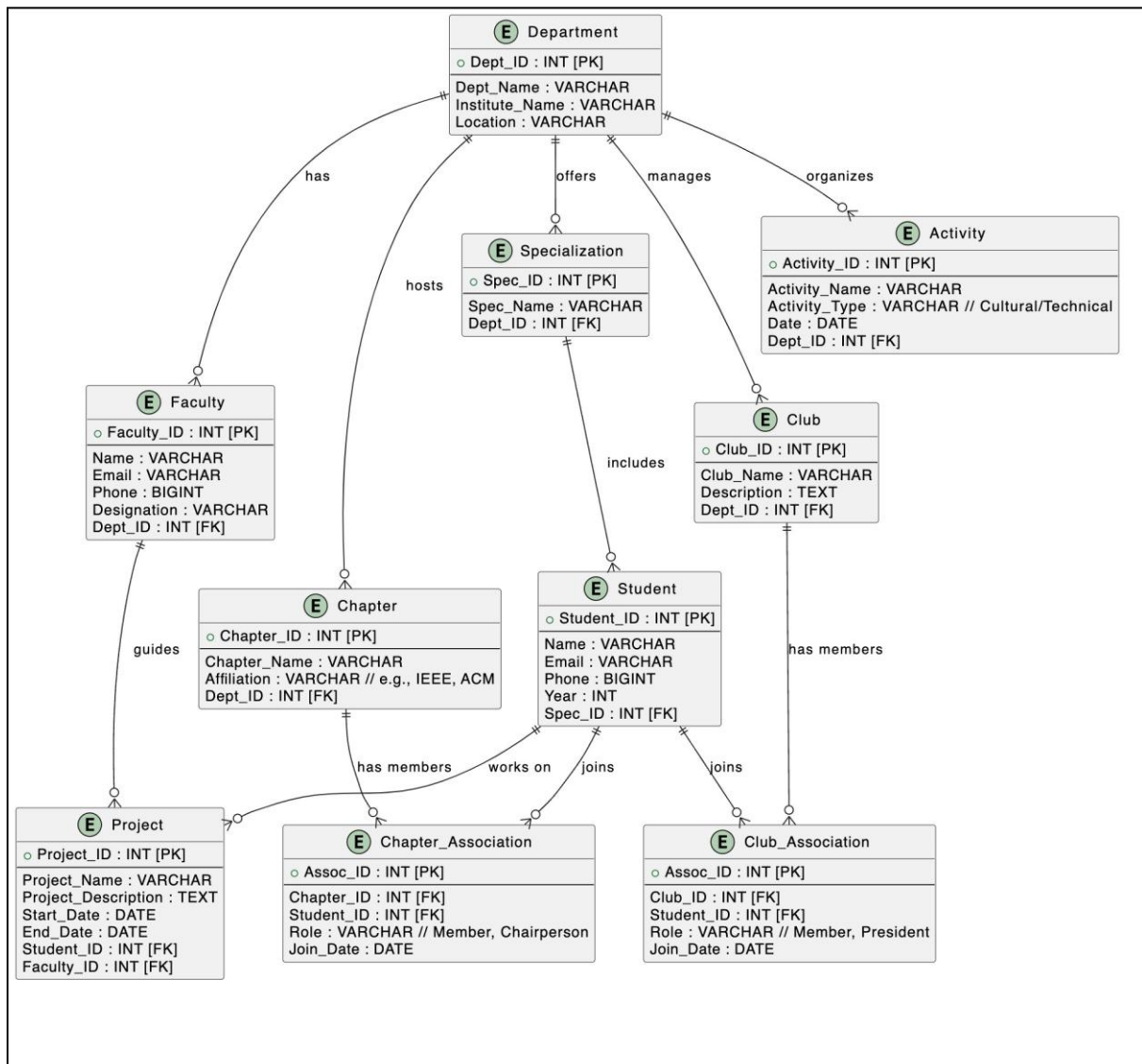
mysql> SELECT * FROM fine_paid;
+-----+
| amount |
+-----+
| 50.00  |
| 100.00 |
+-----+
2 rows in set (0.00 sec)

mysql> DROP TABLE fine_paid;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> SHOW TABLES;
+-----+
| Tables_in_lib_manag |
+-----+
| book                 |
| book_master          |
| book_transaction     |
| student              |
+-----+
4 rows in set (0.00 sec)
```

23. Create fine\_paid table with sid ,amount, status as fields.  
Add 2 records. Display them. Remove all records permanently (No undoing).

```
mysql> CREATE TABLE fine_paid (  
->     sid VARCHAR(10),  
->     amount DECIMAL(10, 2),  
->     status VARCHAR(20)  
-> );  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> INSERT INTO fine_paid (sid, amount, status) VALUES  
-> ('B1500', 50.00, 'Paid'),  
-> ('B1501', 100.00, 'Unpaid');  
Query OK, 2 rows affected (0.01 sec)  
Records: 2  Duplicates: 0  Warnings: 0  
  
mysql> SELECT * FROM fine_paid;  
+-----+-----+-----+  
| sid   | amount | status |  
+-----+-----+-----+  
| B1500 | 50.00  | Paid   |  
| B1501 | 100.00 | Unpaid |  
+-----+-----+-----+  
2 rows in set (0.00 sec)  
  
mysql> TRUNCATE TABLE fine_paid;  
Query OK, 0 rows affected (0.03 sec)  
  
mysql> DESCRIBE fine_paid;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| sid   | varchar(10)   | YES  |     | NULL    |       |  
| amount | decimal(10,2) | YES  |     | NULL    |       |  
| status | varchar(20)   | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)  
  
mysql> |
```



## Conclusion:

The implementation of LibraryDb using MySQL provides hands-on experience with DDL and DML commands, essential for database management.

This assignment covers crucial operations such as :-

1. Creating tables with primary and foreign keys
2. Inserting and modifying data
3. Retrieving records using queries
4. Updating values
5. Handling deletions

Through structured queries, students learn to efficiently manage book records, student details, transactions, and fines. Additionally, the assignment emphasizes **data integrity**, **relational constraints**, and **structured query language (SQL)** concepts.