• Lab 3: Create a database called library\_db and a table books with columns: book\_id, title, author, publisher, year\_of\_publication, and price. Insert five records into the table.

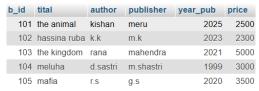
```
Ans:
```

CREATE DATABASE libray\_db;

```
CREATE TABLE book(
b_id int,
tital text,
author varchar(20),
publisher varchar(20),
year_pub INT,
price int
);
```

#### **INSERT INTO book**

VALUES(101,'theanimal','kishan','meru',2025,2500),(102,'hassinaruba','k.k','m.k',2023,2300),(103,'the kingdom','rana','mahendra',2021,5000),(104,'meluha','d.sastri','m.shastri',1999,3000),(105,'mafia','r.s','g.s',2020,3500);



• Lab 4: Create a table members in library\_db with columns: member\_id, member\_name, date\_of\_membership, and email. Insert five records into this table.

Ans:

```
CREATE TABLE members(
    m_id INT,
    m_name text,
    d_mship date,
    email text
);
```

### **INSERT INTO members**

VALUES(1, 'suresh', '2000/04/12', 'suresh@gmail.com'), (2, 'hardik', '2000/4/12', 'hardik@gmail.com'), (3, 'dev', '2024/7/22', 'dev@gmail.com'), (4, 'sauvrav', '2020/4/12', 'saurav@gmail.com'), (5, 'gaurav', '2016/05/2024', 'gaurav@gmail.com');



• Lab 3: Retrieve all members who joined the library before 2022. Use appropriate SQL syntax with WHERE and ORDER BY.

Ans:

<u>SELECT</u> \* FROM book WHERE year\_pub<='2022/01/01' ORDER BY year\_pub;</p>

b_id	tital	author	publisher	year_pub	à 1	price
104	meluha	d.sastri	m.shastri		1999	3000
105	mafia	r.s	g.s		2020	3500
103	the kingdom	rana	mahendra		2021	5000

• Lab 4: Write SQL queries to display the titles of books published by a specific author. Sort the results by year\_of\_publication in descending order.

Ans:

SELECT \* FROM book WHERE year pub<='2022/01/01' ORDER BY year pub DESC;

b_id	tital	author	publisher	year_pub 🔻 1	price
103	the kingdom	rana	mahendra	2021	5000
105	mafia	r.s	g.s	2020	3500
104	meluha	d.sastri	m.shastri	1999	3000

• Lab 3: Add a CHECK constraint to ensure that the price of books in the books table is greater than 0.

Ans:

```
CREATE TABLE book1(
```

b\_id int,
tital text,
author varchar(20),
publisher varchar(20),
year\_pub INT,
price int CHECK(price>0) );

b_id	tital	author	publisher	year_pub	price
101	the animal	kishan	meru	2025	2500
102	hassina ruba	k.k	m.k	2023	2300
103	the kingdom	rana	mahendra	2021	5000
104	meluha	d.sastri	m.shastri	1999	3000
105	mafia	r.s	g.s	2020	3500

 Lab 4: Modify the members table to add a UNIQUE constraint on the email column, ensuring that each member has a unique email address. Ans: ALTER TABLE student MODIFY COLUMN email text UNIQUE; id name email 1 rohan rohan@gmail.com 2 meru meru@gmail.com 3 kishan kishan@gmail.com • Lab 3: Create a table authors with the following columns: author id, first name, last name, and country. Set author\_id as the primary key. Ans: **CREATE TABLE authors(** a\_id int PRIMARY KEY, a firstname text, a lastname text, a country text, ); a\_id a\_firstname a\_lastname a\_country • Lab 4: Create a table publishers with columns: publisher\_id, publisher\_name, contact\_number, and address. Set publisher\_id as the primary key and contact\_number as unique. Ans: CREATE TABLE publishers( p\_id int PRIMARY KEY, p\_name text,

```
CREATE TABLE publishers(
    p_id int PRIMARY KEY,
    p_name text,
    contact_no int UNIQUE,
    address text
);

a_id a_firstname a_lastname a_country
```

• Lab 3: Add a new column genre to the books table. Update the genre for all existing records.

Ans:

```
ALTER TABLE book ADD genre text;

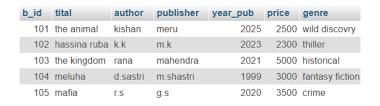
UPDATE book SET genre=' wild discovry ' WHERE b_id=101;
```

UPDATE book SET genre='thiller' WHERE b\_id=102;

UPDATE book SET genre='historical' WHERE b\_id=103;

UPDATE book SET genre=' fantasy fiction' WHERE b\_id=104;

UPDATE book SET genre='crime' WHERE b\_id=105;



Lab 4: Modify the members table to increase the length of the email column to 100 characters.

#### Ans:

ALTER TABLE members MODIFY email varchar(100);



• Lab 3: Drop the publishers table from the database after verifying its structure.

DROP TABLE publishers;

• Lab 4: Create a backup of the members table and then drop the original members table.

## Ans:

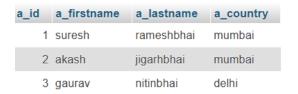
**DROP TABLE members**;

• Lab 4: Insert three new authors into the authors table, then update the last name of one of the authors.

#### Ans:

**INSERT INTO authors** 

VALUES(1, 'suresh', 'rameshbhai', 'mumbai'), (2, 'akash', 'jigarhbhai', 'mumbai'), (3, 'gaurav', 'nitinbhai', 'delhi ');



UPDATE authors SET a\_lastname='dineshbhai' WHERE a\_id=1;

UPDATE authors SET a\_lastname='hiteshbhai' WHERE a\_id=2; UPDATE authors SET a\_lastname='sanjaybhai' WHERE a\_id=3;

a_id	a_firstname	a_lastname	a_country
1	suresh	dineshbhai	mumbai
2	akash	hiteshbhai	mumbai
3	gaurav	sanjaybhai	delhi

• Lab 5: Delete a book from the books table where the price is higher than \$100.

#### Ans:

DELETE FROM book WHERE price>=3000;

b_id	tital	author	publisher	year_pub	price	genre
101	the animal	kishan	meru	2025	2500	wild discovry
102	hassina ruba	k.k	m.k	2023	2300	thiller

• Lab 3: Update the year\_of\_publication of a book with a specific book\_id.

Ans:

b_id	tital	author	publisher	year_pub	price	genre
101	the animal	kishan	meru	2025	2500	wild discovry
102	hassina ruba	k.k	m.k	2023	2300	thiller

UPDATE book SET year\_pub=2018 WHERE b\_id=101; UPDATE book SET year\_pub=2020 WHERE b\_id=102;

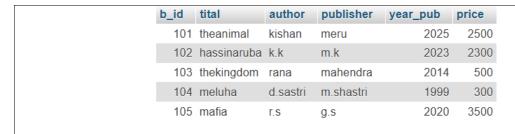


• Lab 4: Increase the price of all books published before 2015 by 10%.

Ans:

b_id	tital	author	publisher	year_pub	price
101	theanimal	kishan	meru	2025	2500
102	hassinaruba	k.k	m.k	2023	2300
103	thekingdom	rana	mahendra	2014	5000
104	meluha	d.sastri	m.shastri	1999	3000
105	mafia	rs	a s	2020	3500

UPDATE book SET price=500 WHERE b\_id=103; UPDATE book SET price=300 WHERE b\_id=104;



• Lab 3: Remove all members who joined before 2020 from the members table.

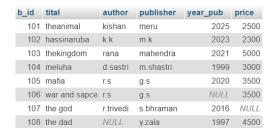
Ans:

DELETE FROM member WHERE m ship<'2020/01/01';

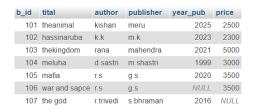
m_id	m_name	m_ship	email
2	ramesh	2020-05-13	ramesh@gmail.com
3	jignesh	2021-07-09	jignesh@gmail.com
5	akash	2023-01-12	akash@gmail.com

• Lab 4: Delete all books that have a NULL value in the author column.

Ans:



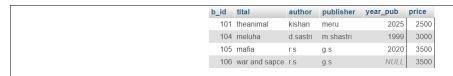
**DELETE** FROM book WHERE author IS null;



• Lab 4: Write a query to retrieve all books with price between \$50 and \$100

Ans:

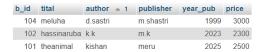
SELECT \* FROM book WHERE price BETWEEN 2500 AND 3500;



• Lab 5: Retrieve the list of books sorted by author in ascending order and limit the results to the top 3 entries.

#### Ans:

SELECT \* FROM book ORDER BY author LIMIT 3;



• Lab 3: Perform an INNER JOIN between books and authors tables to display the title of books and their respective authors' names.

#### Ans:

SELECT author.a\_nane,book.b\_name,book.b\_id FROM book INNER JOIN author ON book.b\_id=author.b\_id;

a_nane	b_name	b_id
deep	bhakti kavya	101
om	ramayan	103
subh	mahabharat	104
gyan	jeevansutra	105
heet	ramayan	103

• Lab 4: Use a FULL OUTER JOIN to retrieve all records from the books and authors tables, including those with no matching entries in the other table.

### Ans:

SELECT author.a\_nane,book.b\_name,book.b\_id FROM book full JOIN author ON book.b\_id=author.b\_id;

• Lab 3: Group books by genre and display the total number of books in each genre.

## Ans:

SELECT gener, count (title) FROM book1 GROUP BY gener;



• Lab 4: Group members by the y

ear they joined and find the number of members who joined each year.

#### Ans:

SELECT year, COUNT(name) FROM member GROUP BY year;

year	COUNT(name)
2023	1
2024	3
2025	2

• Lab 3: Write a stored procedure to retrieve all books by a particular author.

### Ans:

**DELIMITER \$\$** 

CREATE PROCEDURE ins( b\_id int, b\_name text, author text, price int )

**BEGIN** 

INSERT INTO book VALUES(b\_id,b\_name,author,price);

**END** 

CALL ins(101, 'the lion', 'm.joshi', 6000);

CALL ins(102, 'the mom', 'm.gandhi', 5000);



• Lab 4: Write a stored procedure that takes book\_id as an argument and returns the price of the book.

## Ans:

CREATE PROCEDURE GetBookPrice(IN book\_id INT, OUT book\_price DECIMAL(10, 2))

**BEGIN** 

SELECT price INTO book\_price

FROM books

WHERE b\_id = book\_id;

END;

CALL GetBookPrice(1, @price);

SELECT @price;

@price 3000.00

• Lab 3: Create a view to show only the title, author, and price of books from the books table.

Ans:

CREATE VIEW v1 AS SELECT title, author, price FROM book1; SELECT \* FROM v1;

	title	author	price
	m.prtap	m.pandit	2000
	c.shivaji	mahesh darji	5000
	the mafia	j.pathk	7000
	bhagat singh	harish solnki	2000
	the white tiger	m.sukla	3500

• Lab 4: Create a view to display members who joined before 2020

Ans:

CREATE VIEW v2 AS SELECT \* FROM member WHERE year<2020; SELECT \* FROM v2;



• Lab 3: Create a trigger to automatically update the last\_modified timestamp of the books table whenever a record is updated.

Ans:



CREATE TRIGGER tri2 AFTER UPDATE ON book2 FOR EACH ROW

REGIN

<u>INSERT</u> INTO alldata(id,name,proccess)<u>VALUES</u>(new.b\_id,new.b\_name,'update record');
END

UPDATE book2 SET b\_name='the dad' WHERE b\_id=1;

