

Assignment – 02

1) Create the table Member, Books and Issue without any constraints

CREATE TABLE Member

(Member_id int , Member_Name varchar(30),Member_address Varchar(50),
Acc_Open_Date Date , Membership_type varchar(20),Fees_paid int,
Max_Books_Allowed int ,Penalty_Amount Decimal(7,2));

CREATE TABLE Books

(Book_No int , Book_Name varchar(30),Author_Name Varchar(30),
Cost decimal(7,2), Category char(10));

CREATE TABLE Issue

(Lib_issue_id int,Book_no int, Member_id int,Issue_date date,
Return_date date);

2) View the structure of the tables

DESC Member;

3) Drop the Member table

DROP TABLE Member;

4) Create the table Member again as per the schema description with the following constraints.

a. Member_Id – Primary Key

b. Membership_type - ‘Lifetime’, ‘Annual’, ‘Half Yearly’, ‘Quarterly’ CREATE TABLE
Member

(Member_id int primary key , Member_Name varchar(30),Member_address Varchar(50),

Acc_Open_Date Date , Membership_type varchar(20) check(membership_type in ('Lifetime','Annual','Half Yearly','Quarterly')),

Fees_paid int,

Max_Books_Allowed int ,Penalty_Amount Decimal(7,2));

5) Modify the table Member increase the width of the member name to 30 characters.

ALTER TABLE member

MODIFY COLUMN Member_name varchar(30);

-- its already

6) Add a column named as Reference of Char(30) to Issue table

ALTER TABLE issue

ADD COLUMN Reference char(30);

7) Delete/Drop the column Reference from Issue.

ALTER TABLE issue

DROP COLUMN Reference;

8) Rename table Issue to Lib_Issue

RENAME TABLE Issue TO Lib_Issue;

9) Insert given data

INSERT INTO Member

VALUES (1,'Richa Sharma','Pune','10-12-05','Lifetime',25000,5,50),

(2,'Garima Sen','Pune','2025-12-18','Annual',1000,3,NULL);

10) Insert at least 5 records with suitable data

INSERT INTO Member

```
VALUES (3,'Garim don','Pune','2025-12-10','Annual',1000,3,NULL),
(4,'Girish patil','Neri','2025-12-12','Annual',1000,3,NULL),
(5,'krish patil','Jalgaon','2025-12-08','Annual',1000,3,NULL),
(6,'Jayesh D','Jalgaon','2025-12-06','Annual',1000,3,NULL),
(7,'Jayesh Gurav','Jalgaon','2025-12-06','Annual',1000,3,NULL);
```

11) Modify the column Member_name. Decrease the width of the member name to 20 characters. (If it does not allow state the reason for that)

```
ALTER TABLE member
MODIFY COLUMN member_name varchar(20);
-- ERROR 1265 (01000): Data truncated for column 'member_name' at row 1
```

12) Try to insert a record with Max_Books_Allowed = 110, Observe the error that comes.

```
INSERT INTO Member
VALUES (8,'Lokesh','Jalgaon','2025-12-10','Annual',1000,110,NULL);
```

13) Generate another table named Member101 using a Create command along with a simple SQL query on member table

```
CREATE TABLE member101
(member_id int primary key , member_name varchar(20));
```

14) Add constraints

a) max_books_allowed < 100

```
ALTER TABLE member
MODIFY COLUMN Max_books_allowed int check(max_books_allowed <100);
-- ERROR 3819 (HY000): Check constraint 'member_chk_2' is violated.
```

b) penalty_amt <= 1000

```
ALTER TABLE member
```

```
MODIFY COLUMN penalty_amount decimal(7,2) CHECK(penalty_amount >=1000);
```

```
-- ERROR 3819 (HY000): Check constraint 'member_chk_2' is violated.
```

```
-- BECAUSE WE ALREADY ADD THE VIOLATED VALUES LIKE IN MAX ONLY 3 AND  
PENALTY OF 1ST COLUMN IS 25000
```

15) Drop table books

```
DROP TABLE books;
```

16) Create table Books again as per the schema description with the following constraints. a. Book_No – Primary Key b. Book_Name – Not Null c. Category – System, Fiction, Database, RDBMS, Others

```
CREATE TABLE Books
```

```
(book_no int primary key, book_name varchar(20) not null,
```

```
category varchar(20)
```

```
check(category in("System","Fiction","Database","RDBMS","others")));
```

17) Insert data

```
INSERT INTO Book
```

```
VALUES (101,'Let us C','Denis Ritchie',450,'System'),
```

```
      (102,'Oracle-Complete Ref','Loni',550,'Database'),
```

```
      (103,'Mastering SQL','Loni',250,'Database'),
```

```
      (104,'PL SQL REF','Scott Urman',750,'Database');
```

18) Insert more records in Book table

```
INSERT INTO Book
```

```
VALUES (105,'OS','Master dada',500,'System');
```

19) View the data in the tables using simple SQL query

```
TABLE Book;
```

20) Insert into book following data

105, National Geographic, Adis Scott, 1000, Science

UPDATE book SET book_no =106 WHERE BOOK_name="OS";

INSERT INTO book

VALUES (105,'National Geographic','Adis Scott',1000,'Science');

-- ERROR 3819 (HY000): Check constraint 'book_chk_1' is violated.

-- Because 'Science' not in Check Constraint Value

ALTER TABLE book

MODIFY COLUMN Category char(10)

CHECK(category in('System','Fiction','Database','RDBMS','Science','others'));

INSERT INTO book

VALUES (105,'National Geographic','Adis Scott',1000,'Science');

-- ERROR 3819 (HY000): Check constraint 'book_chk_1' is violated.

SHOW CREATE TABLE book;

-- HERE TWO CHECK CONSTRAINTS SO WE NEED TO REMOVE FIRST TO ADD THIS DATA

ALTER TABLE book

DROP CONSTRAINT book_chk_1;

INSERT INTO book

VALUES (105,'National Geographic','Adis Scott',1000,'Science');

21) Rename Lib_Issue to Issue

```
RENAME TABLE Lib_Issue TO Issue;
```

22) Drop Issue

```
DROP TABLE Issue;
```

23) As per the given structure Create table Issue again with following constraints. ♣

Lib_Issue_Id-Primary key ♣ Book_No- foreign key ♣ Member_id - foreign key ♣

Issue_date ♣ Return_date CREATE TABLE issue

(Lib_Issue_Id int primary key,Book_No int,Member_Id int,Issue_date date,Return_date date);

```
ALTER TABLE issue
```

```
ADD FOREIGN KEY(Book_no)
```

```
REFERENCES book(Book_no);
```

```
ALTER TABLE issue
```

```
ADD FOREIGN KEY(Member_id)
```

```
REFERENCES Member(Member_id);
```

24) Insert data

```
INSERT INTO issue (lib_issue_id,book_no,member_id,issue_date)
```

```
VALUES (7001,101,1,'10-12-06'),
```

```
      (7002,102,2,'25-12-06"),
```

```
      (7003,104,1,'15-01-06"),
```

```
      (7004,101,1,'04-07-06'),
```

```
      (7005,104,2,'15-11-06'),
```

```
      (7006,101,3,'18-02-06');
```

25) Remove constraints on issue table

```
ALTER TABLE issue  
DROP PRIMARY KEY,  
DROP CONSTRAINT issue_ibfk_1,  
DROP CONSTRAINT issue_ibfk_2,  
MODIFY COLUMN Lib_Issue_Id int;
```

26) Insert a record in Issue table. The member_id should not exist in member table.

```
INSERT INTO issue  
VALUES(7007,103,9,'2025-10-25',NULL);
```

27) Now enable the constraints of Issue table. Observe the error

```
ALTER TABLE issue  
ADD primary key(Lib_Issue_Id),  
ADD foreign key (book_no)  
REFERENCES Book(Book_No);  
-- WORKING
```

```
ALTER TABLE issue  
ADD foreign key (Member_Id)  
REFERENCES Member(Member_id);  
-- ERROR 1452 (23000): Cannot add or update a child row:  
-- constraint fails (row exists with Member_Id = 9)
```

28) Delete the record inserted at Q-27) and enable the constraints.

```
DELETE FROM issue WHERE member_id=9;
```

```
ALTER TABLE issue
```

```
ADD foreign key (Member_Id)
REFERENCES Member(Member_id);
```

29) Try to delete the record of member id 1 from member table and observe the error

```
DELETE FROM member WHERE member_id=1;

-- ERROR 1451 (23000): Cannot delete or update a parent row:
-- foreign key constraint fails
```

30) View the data and structure of all the three tables Member, Issue, Book.

```
TABLE member;
TABLE book;
TABLE issue;
```

```
DESC Member;
DESC Book;
DESC Issue;
```

31) Modify the Return_Date of 7004,7005 to 15 days after the Issue_date

```
UPDATE issue
SET Return_date='04-07-21'
WHERE lib_issue_id=7004;
```

```
UPDATE issue
SET Return_date='15-11-21'
WHERE lib_issue_id=7005;
```

32) Remove all the records from Issue table where member_ID is 1 and Issue date in before 10-Dec-06.


```
DELETE FROM issue  
  
WHERE member_id=1 AND issue_date<'10-12-06';  
  
-- Lib_Issue_Id=7004 deleted
```

33) Remove all the records from Book table with category other than RDBMS and Database.

```
DELETE FROM book WHERE category != 'RDBMS';  
  
-- ERROR 1451 (23000): Cannot delete row: referenced in Issue
```

```
DELETE FROM book WHERE category != 'Database';  
  
-- ERROR 1451 (23000): Cannot delete row: referenced in Issue
```

34) Remove The Table Member

```
DROP TABLE member;  
  
-- ERROR 3730 (HY000): Cannot drop table 'member'  
  
-- referenced by foreign key 'issue_ibfk_2'
```

35) Remove The Table Book

```
DROP TABLE book;  
  
-- ERROR 3730 (HY000): Cannot drop table 'book'  
  
-- referenced by foreign key 'issue_ibfk_1'
```