# Database Management System Lab1 (BCAC291)

# Laboratory Assignments

**BRAINWARE UNIVERSITY**
**DEPARTMENT OF COMPUTATIONAL SCIENCE**
**EVEN Semester, 2023**

**Assignment –I**

1. **Create the following tables with appropriate constraints using SQL commands.**

SQL Query for **creating table**

CREATE TABLE <TABLE NAME>
        (<COLUMN NAME 1> <DATA TYPE>,  <COLUMN NAME 2>
                <DATA TYPE> NOT NULL1 ,
    ……………………………………………………………………);

2. **If Attribute is NOT NULL.**

   ➢ SQL Query to **add constraints**

ALTER TABLE <TABLE NAME> ADD CONSTRAINT <CONSTRAINT NAME>
PRIMARY KEY (<COLUMN NAME>);


ALTER TABLE <TABLE NAME> ADD CONSTRAINT <CONSTRAINT NAME>
CHECK <COLUMN NAME> IN (VALUE1, VALUE2,………);


ALTER TABLE <TABLE NAME> ADD CONSTRAINT <CONSTRAINT NAME>

FOREIGN KEY <COLUMN NAME> REFERENCES <TABLE NAME> <COLUMN

NAME>;

A) Table Name : Member

| | | |
|---|---|---|
| Member_address | Varchar2(50) | Address of the member |
| Acc_Open_Date | Date | Date of membership |
| Membership_type | Varchar2(20) | Type of the membership such as 'Lifetime',' Annual', 'Half Yearly',' Quarterly' |

| | | |
|---|---|---|
| Fees_paid | Number(4) | Membership fees paid |
| Max_Books_Allowed | Number(2) | Total Number of books that can be issued to the member. |
| Penalty_Amount | Number(7,2) | Penalty amount due |

CONSTRAINT:

a. Member_Id – Primary Key
b. Member_Name – NOT NULL
c. Membership_type - 'Lifetime',' Annual', 'Half Yearly',' Quarterly'
d. Max_books_allowed <7
e. Penalty_amt maximum 1000

B) Table Name : Books

| COLUMN NAME | DATA TYPE | DESCRIPTION |
|---|---|---|
| Book_No | Number(6) | Book identification number |
| Book_Name | VarChar2(30) | Name of the book |
| Author_name | Varchar2(30) | Author of the book |
| Cost | Number(7,2) | Cost of the book |
| Category | Char(10) | Category like Science , Fiction etc. |

CONSTRAINT:

a. Book_No – Primary Key
b. Book_Name – Not Null
c. Category – Science, Database, System, Others.

C) Table Name :Issue

| | | |
|---|---|---|
| Member_Id | Number(5) | Member that issued the book |

| Issue_Date | Date | Date of Issue |
|---|---|---|
| Return_date | Date | Return date |

CONSTRAINT:

    a. Lib_Issue_Id -Primary key

    b. Book_No - foreign key

    c. Member_id - foreign key

**Insert the following data to the appropriate table using SQL command.**

## Example:

### *SQL Query for inserting data into table*

```
INSERT INTO <TABLE NAME   > (COLUMN1, COLUMN2, COLUMN3,    ……………)
VALUES (DATA1, DATA2, DATA3,    );
OR
INSERT INTO <TABLE NAME    > VALUES (DATA1, DATA2, DATA3,  );
OR
INSERT INTO <TABLE NAME    > VALUES (&COLUMN1, &COLUMN2, &COLUMN3,  );
```

A) Table Name : Member

| MEMBER_ID | MEMBER_NAME | MEMBER_ADDRESS | ACC_OPEN_DATE | MEMBERSHIP_TYPE | FEES_PAID | MAX_BOOKS_ALLOWED | PENALTY_AMOUNT |
|---|---|---|---|---|---|---|---|
| 1 | Sayantan Sinha | Pune | 10-Dec-10 | Lifetime | 2000 | 6 | 50 |
| 2 | Abhirup Sarkar | Kolkata | 19-jan-11 | Annual | 1400 | 3 | 0 |
| 3 | Ritesh Bhuniya | Gujarat | 20-feb-11 | Quarterly | 350 | 2 | 100 |
| 4 | Paresh sen | Tripura | 21-mar-11 | Half yearly | 700 | 1 | 200 |
| 5 | Sohini Haldar | Birbhum | 11-apr-11 | Lifetime | 2000 | 6 | 10 |
| 6 | Suparna Biswas | Kolkata | 12-apr-11 | Half Yearly | 700 | 1 | 0 |
| 7 | Suranjana Basu | Purulia | 30-june-11 | Annual | 1400 | 3 | 50 |
| 8 | Arpita Roy | Kolkata | 31-july-11 | Half yearly | 700 | 1 | 0 |

B) Table Name : Books

| BOOK_NO | BOOK_NAME | AUTHOR_NAME | COST | CATEGORY |
|---|---|---|---|---|
| 101 | Let us C | Denis Ritchie | 450 | Others |
| 102 | Oracle – Complete Ref | Loni | 550 | Database |
| 103 | Visual Basic 10 | BPB | 700 | Others |
| 104 | Mastering SQL | Loni | 450 | Database |
| 105 | PL SQL-Ref | Scott Urman | 750 | Database |
| 106 | UNIX | Sumitava Das | 300 | System |
| 107 | Optics | Ghatak | 600 | Science |
| 108 | Data Structure | G.S. Baluja | 350 | Others |

C) Table Name : Issue

| LIB_ISSUE_ID | BOOK_NO | MEMBER_ID | ISSUE_DATE | RETURN_DATE |
|---|---|---|---|---|
| 7001 | 101 | 1 | 10-jan-11 | |
| 7002 | 102 | 2 | 25-jan-11 | |
| 7003 | 104 | 1 | 1-Feb-11 | |
| 7004 | 104 | 2 | 15-Mar-11 | |