

### Assignment No. 03

- Title: Design atleast 10 SQL queries for suitable design database applications using SQL.
- Problem Statement: Design atleast 10 SQL queries for suitable application using SQL DML statements. Insert, update, delete with operations function and set operations.  
Use following Schema:
  - 1) Customer (cust\_no, cust\_fname, cust\_lname, cust\_company, cust\_addr, city, phone)
  - 2) Order (order\_no, cust\_no, ISBN, qty, odate)
  - 3) book (ISBN, title, unit price, author\_no, publisher\_no, pub\_year)
  - 4) author (author\_no, author\_name, country)
  - 5) publisher (pub\_no, pub\_name, pub\_addr, year)
- Objective: To
  - 1) Understand and implement various DML commands
  - 2) Understand database concepts like functions and set operations.
- Outcomes: I will be able to,
  - 1) Implement various DML commands
  - 2) Implement database concepts like functions and set operations.
- SW & HW Requirements:  
m, SQL, PC with the configuration as latest version of OS, bit operating systems, open source Fedora, 8 GB RAM

• Theory :

DML stands for Data Manipulation Language and deals with data manipulation and includes statements like select, insert, update, delete and it used to store or update data.

1) Commands :

Select : used to fetch data from database table

Syntax : select <col-name> from <table-name>

Insert : used to insert new records into table.

Syntax : insert into <table-name> (col1, col2, ..., coln) <value1, value2, ..., value n>

Update : Used to modify data

Syntax : update <table-name> set column1 = value1, column2 = value2, where <condition>

Delete : Delete data from database

Syntax : delete from <table-name> where <condition>

2) Set operations :

Union - Return union of two selected statement & unique value in them

Syntax : ~~set~~ select \* from table 1 union select \* from table 2

Union all - Returns all values including duplication

Syntax : select \* from table 1 union all select \* from table 2



Minus: Returns difference between first and second select statement.

Syntax: `Select * from table1 minus select * from table2`

Intersect: Intersect returns results common to first and second select statement.

Syntax: `select * from table1 intersect select * from table2`

### 3) DDL statements:

Create: Create database or its objects

e.g. table, index, function, views, triggers and procedure

Syntax: `Create table <table name>`

Drop: Deletes objects from database

Syntax: `drop table <table name>`

Alter: Alter structure of database

Syntax: `Alter table <table name> add col-name <datatype>`

Truncate: Include all records from table including table structure.

Syntax: `truncate column from table.`

#### 4) Queries:

- Display all the customer details with city 'Pune and Mumbai' and customer name with M.

select \* from customer where city = 'Pune' or city = 'Mumbai' and cus\_name like "M%";

- list no. of different customer cities.

select distinct city from customer;

- Give 5% increase in prices of books with pub-year = '2015'.  
update books set unit\_price = unit\_price \* 1.05 where pub-year = '2015';

- delete customer details living in Pune.

Delete from customer where city = 'Pune';

- Find name of authors from India

select author\_name from author where country = 'India' UNION select author\_name from author where country = 'Australia';

- Find book with max price and title.

select max unit\_price from book; select title from book where unit\_price between 300 and 500

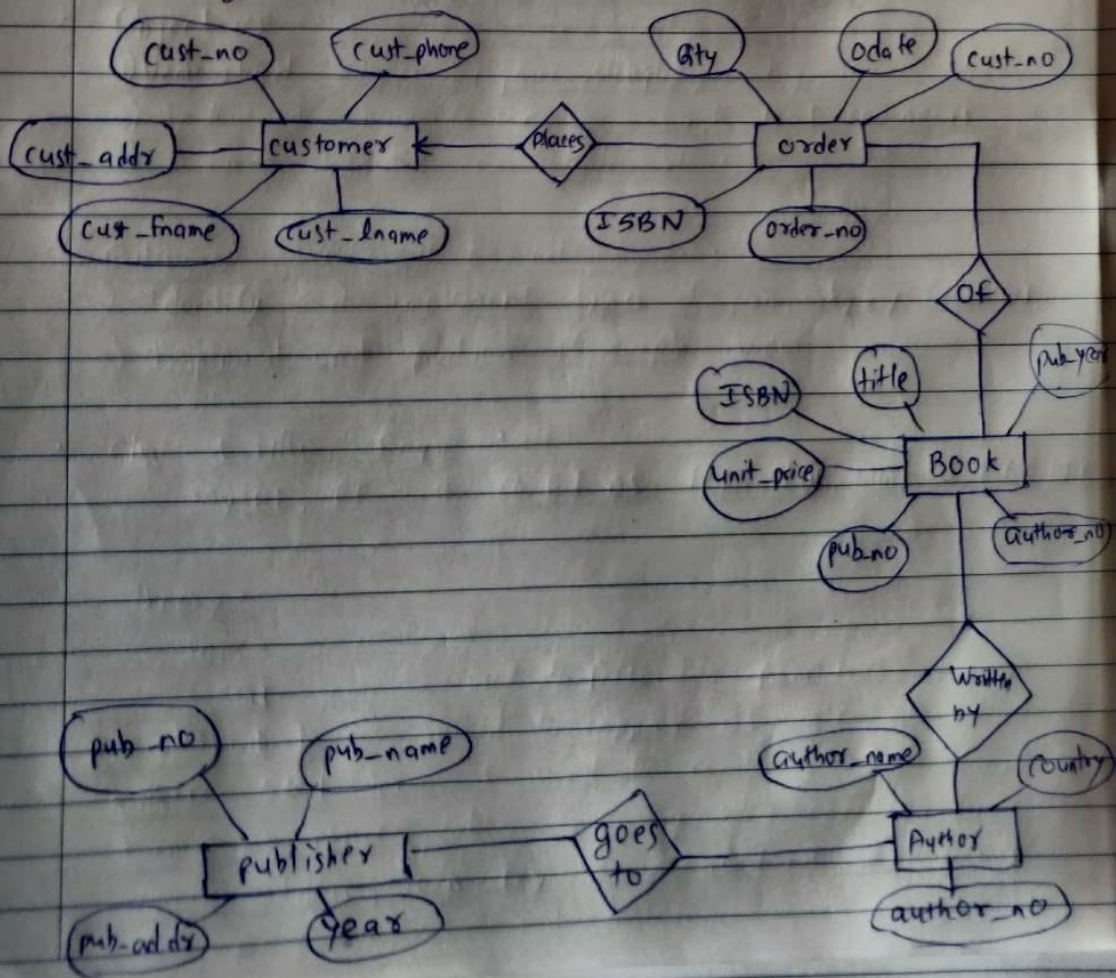
- Find publishers who are established between 2015 & 2019

select \* from publisher where year = 2015 or year = 2019;



- Display all titles with unit price in descending  
Select title, pub\_year, unit\_price from book by pub\_year desc;
- Display title, author\_no and pub\_no of books in 2000, 2004, 2005.  
Select author\_no, pub\_no, title from book where pub\_year in  
(2000, 2004, 2005);

E-R diagram:



- Result:

All the test cases yielded the result 'PASS'.

- Conclusion:

We successfully created a table according to given schema and solved the required queries.