INDIRA GANDHI DELHI TECHNICAL UNIVERSITY FOR WOMEN

DATABASE MANAGEMENTSYSTEM PROJECT

DEPARTMENT – COMPUTER SCIENCE ENGINEERING

Submitted By:	Submitted To:
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Assignment -1

1). What is SQL?

SQL (Structured Query Language) is a standardized programming language that's used to manage relational databases and perform various operations on the data in them.

SQL is regularly used not only by database administrators, but also by developers writing data integration scripts and data analysts looking to set up and run analytical queries

The uses of SQL include modifying database table and index structures; adding, updating and deleting rows of data; and retrieving subsets of information from within a database for transaction processing and analytics applications. Queries and other SQL operations take the form of commands written as statements -- commonly used SQL statements include select, add, insert, update, delete, create, alter and truncate.

2). What is DDL and DML ? Write 3 commands of each type .

DDL

DDL is Data Definition Language and is used to define the structures like schema, database, tables, constraints etc. Examples of DDL are create and alter statements. It has no further classification.

Commands

CREATE, DROP, RENAME and ALTER.

DML

DML is Data Manipulation Language and is used to manipulate data.Examples of DML are insert, update and delete statements.

It is further classified into procedural DML and non-procedural DML.

Commands

INSERT, UPDATE and DELETE.

INDEX

Acknowledgement

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them. I am highly indebted to Our lecturer, Mrs. Vibha Pratap for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project. I would like to express my gratitude towards my parents & classmates for their kind co-operation and encouragement which help me in completion of this project.

I would like to express my special gratitude and thanks to university organization for giving me such attention and time. My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

Date: 10 December,2021

Thanking you

Kajal (146)

Certificate

(Indira Gandhi Delhi Technical university for women)

This is to certify that the project report entitled “Online bookstore Management Syatem”, submitted to the Department of Computer Science and Engineering, IGDTUW University, is carried out by “Kajal” , CSE2 under my supervision and guidance.

Assistant professor

Place: IGDTUW

Date: 10 December 2021

Introduction

1.Word description

In this modern era of online shopping no seller wants to be left behind, moreover due to its simplicity the shift from offline selling model to an online selling model is witnessing a rampant growth.: The online bookshop is a form of e-commerce, it has many advantages, such as: Bookstore size is relatively small, cost savings; anywhere, improve service efficiency, The information is complete, more convenient retrieval, consumers can see new books in a timely manner, trading activities can be launched immediately, so online bookstore in today's era of development is extremely rapid. Online bookstore system is the main function of the trading platform for the site, consumers can connect through internet into the online bookshop and then check the book information, if person need to purchase could select their own books, submit orders and pay Operation to complete the entire book ordering process, to achieve online transactions.

2.The Purpose of project

With the online bookshop management system, consumers do not need to blindly go to various places to find their own books, but only Internet can connect to online bookshop system, find of the book information, and you can efficiently know whether the site has its own books, if you can online direct purchase, if not, you can change the home bookshop to continue to search or provide advice to the seller in order to supply, This greatly facilitates every consumer, saving time and labor. The online bookstore system can not only reduce costs, save time, space, to bring convenience to everyone, but also to promote the development of the logistics industry, serve three purposes, mutual benefit.

Data Requirements

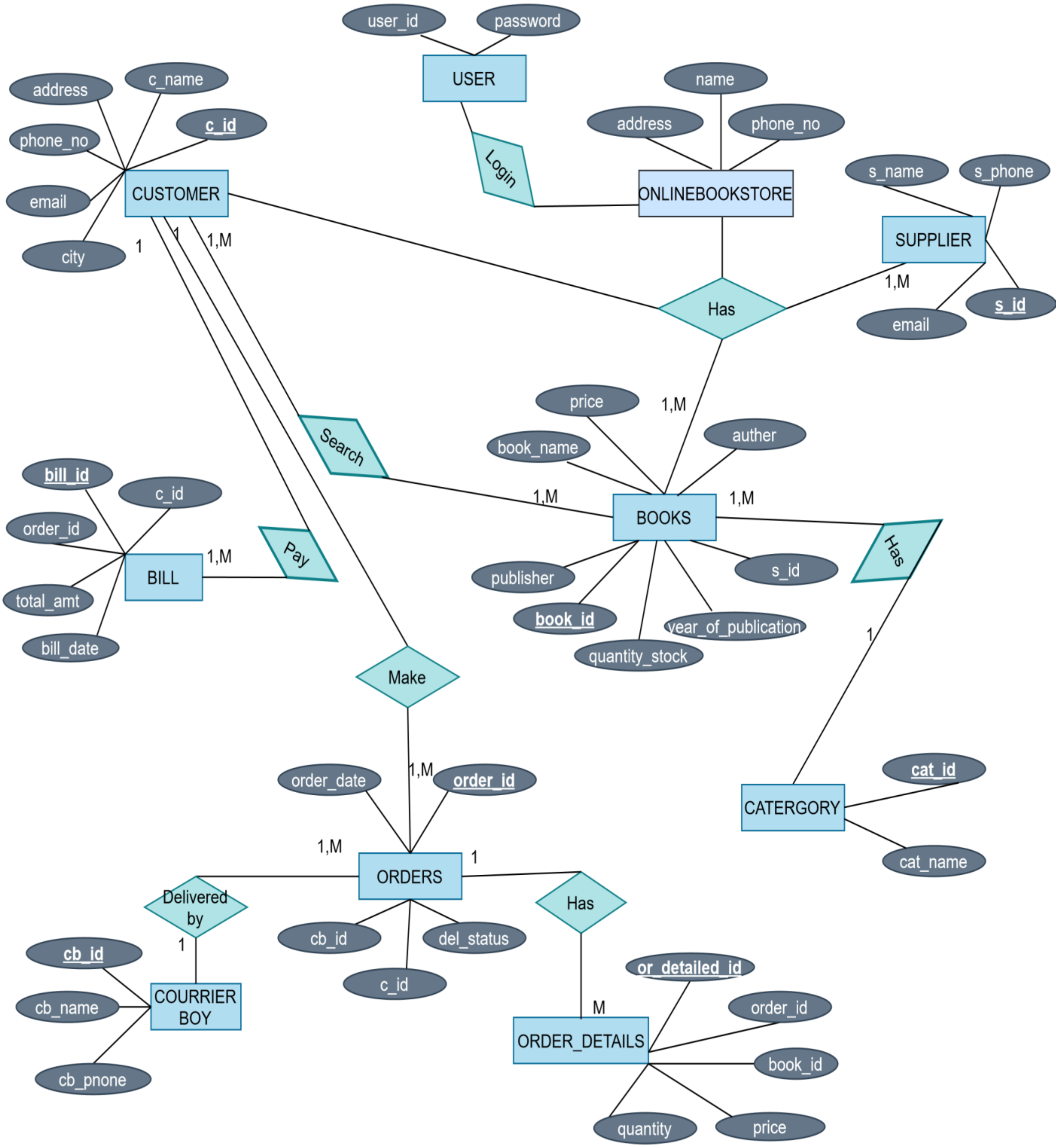
ENTITIES

- Userlogin
- Customer
- Supplier
- Category
- Books
- Orders
- Courrierboy
- Orderdetails
- Bill

ATTRIBUTES

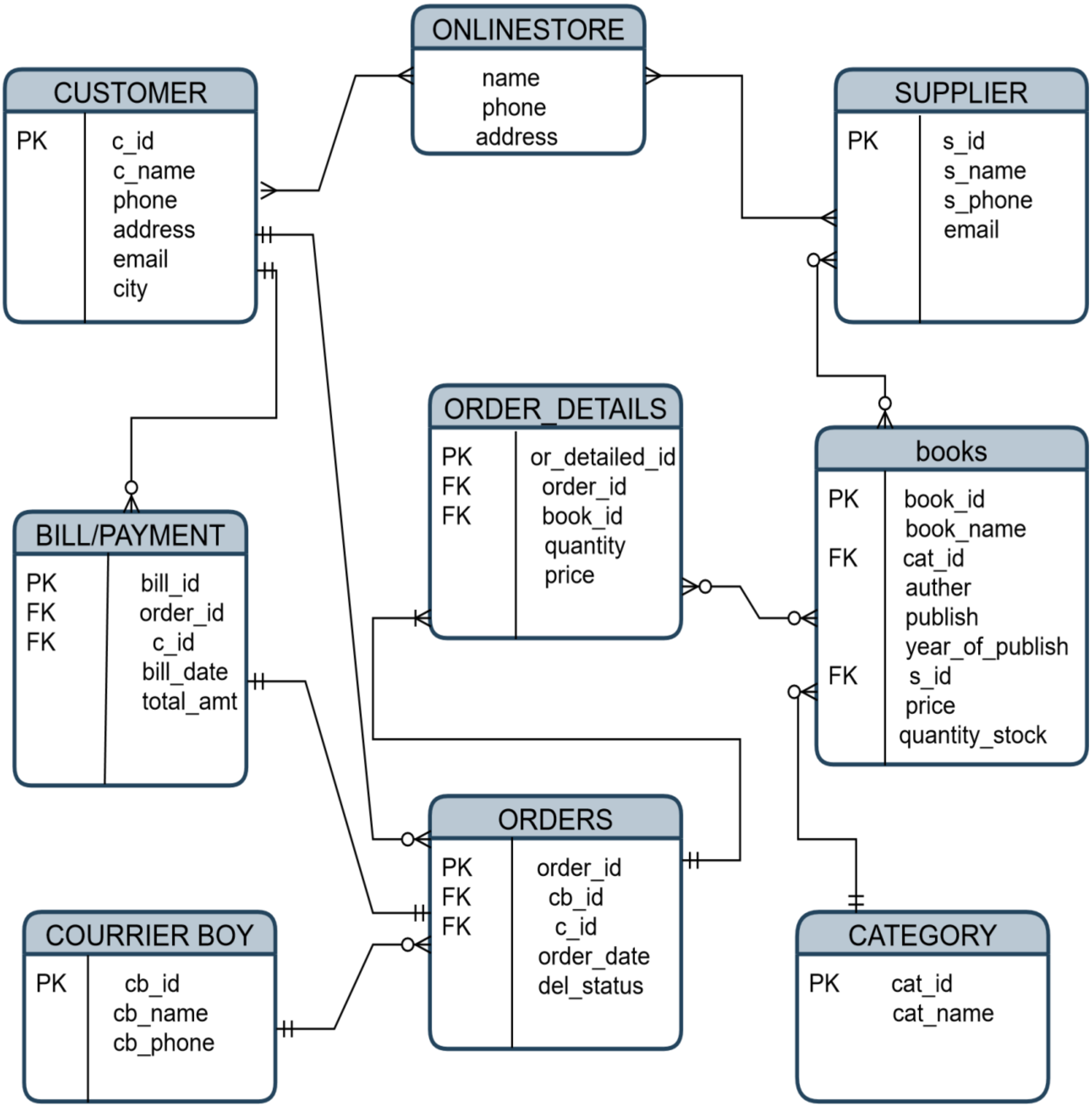
- Userlogin: username, password
- Customer : customer_id , name, phone_no, address, email, city.
- Supplier : name, address phone_no , email
- Category : catergory_id , category_name
- Books : book_id , title, price, suppier_id , category_id , quantity_stock,auther, publisher, year_of _publishing
- Courrierboy :courrierboy_id , name, phone_on

- Orderdetails : order_details_id , order_id , book_id , quantity, price
- Bill : bill_id , order_id , customer_id , total_amount , biling_date

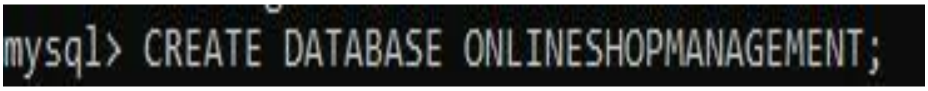


Entity Relation Diagram

Relational Database Schema

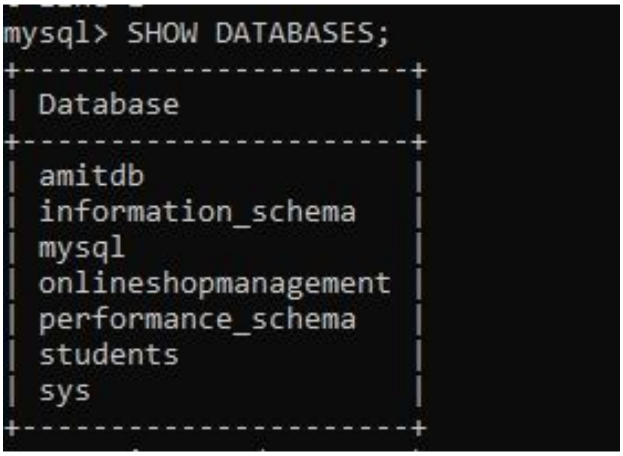


Creating database



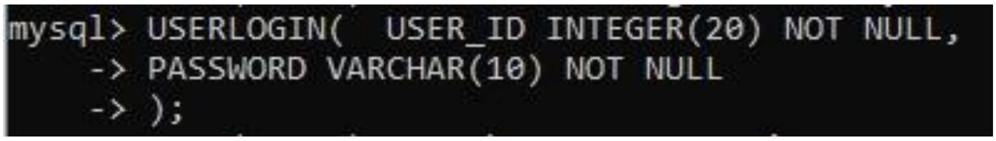
```
mysql> CREATE DATABASE ONLINESHOPMANAGEMENT;
```

Show all databases

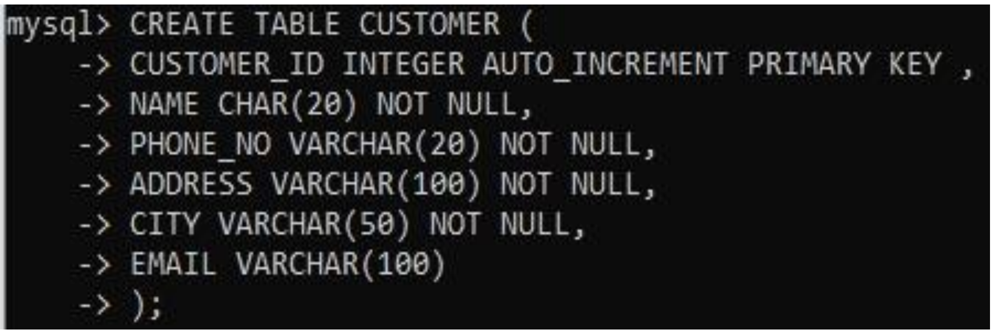


```
mysql> SHOW DATABASES;
+----------------------+
| Database             |
+----------------------+
| amitdb               |
| information_schema   |
| mysql                |
| onlineshopmanagement |
| performance_schema   |
| students             |
| sys                  |
+----------------------+
```

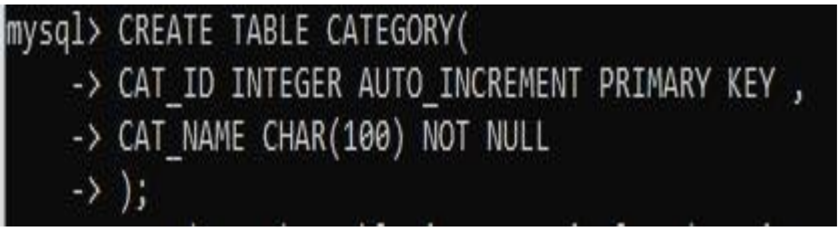
1.creating tables



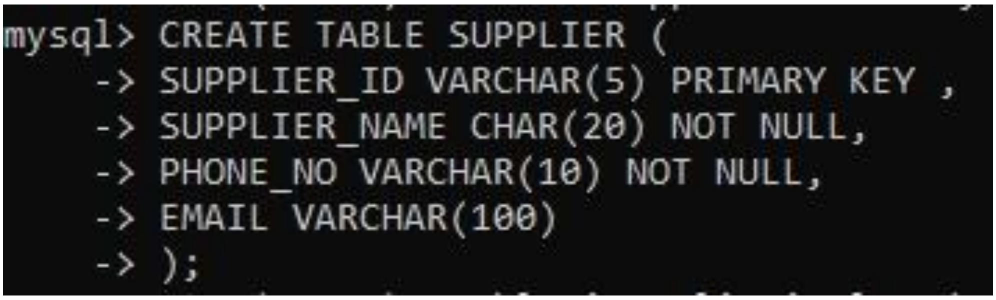
```
mysql> USERLOGIN(  USER_ID INTEGER(20) NOT NULL,
    -> PASSWORD VARCHAR(10) NOT NULL
    -> );
```



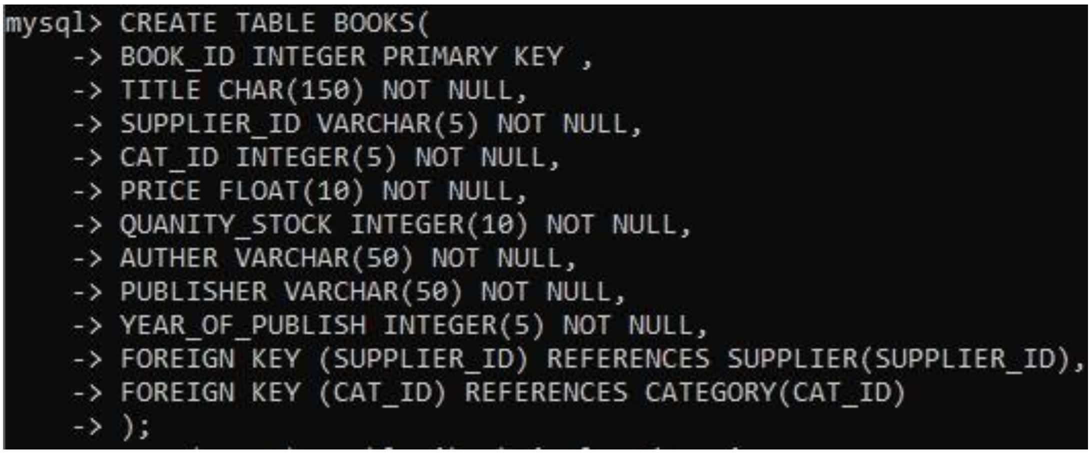
```
mysql> CREATE TABLE CUSTOMER (
    -> CUSTOMER_ID INTEGER AUTO_INCREMENT PRIMARY KEY ,
    -> NAME CHAR(20) NOT NULL,
    -> PHONE_NO VARCHAR(20) NOT NULL,
    -> ADDRESS VARCHAR(100) NOT NULL,
    -> CITY VARCHAR(50) NOT NULL,
    -> EMAIL VARCHAR(100)
    -> );
```



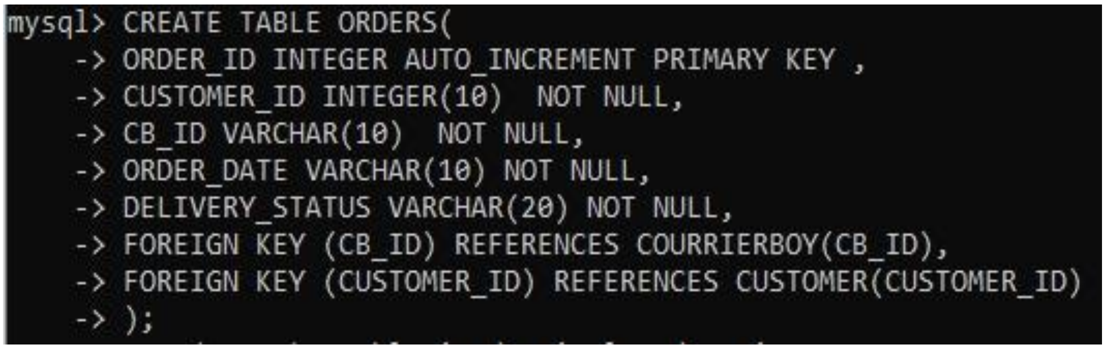
```
mysql> CREATE TABLE CATEGORY(
    -> CAT_ID INTEGER AUTO_INCREMENT PRIMARY KEY ,
    -> CAT_NAME CHAR(100) NOT NULL
    -> );
```



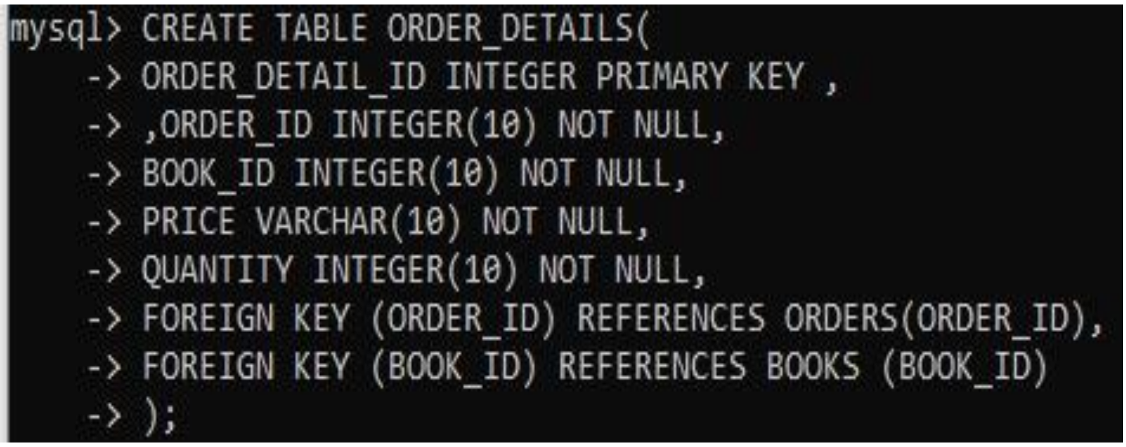
```
mysql> CREATE TABLE SUPPLIER (
    -> SUPPLIER_ID VARCHAR(5) PRIMARY KEY ,
    -> SUPPLIER_NAME CHAR(20) NOT NULL,
    -> PHONE_NO VARCHAR(10) NOT NULL,
    -> EMAIL VARCHAR(100)
    -> );
```



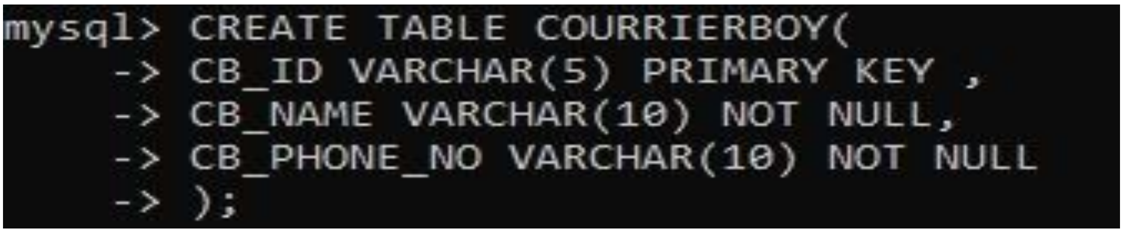
```
mysql> CREATE TABLE BOOKS(
    -> BOOK_ID INTEGER PRIMARY KEY ,
    -> TITLE CHAR(150) NOT NULL,
    -> SUPPLIER_ID VARCHAR(5) NOT NULL,
    -> CAT_ID INTEGER(5) NOT NULL,
    -> PRICE FLOAT(10) NOT NULL,
    -> QUANITY_STOCK INTEGER(10) NOT NULL,
    -> AUTHER VARCHAR(50) NOT NULL,
    -> PUBLISHER VARCHAR(50) NOT NULL,
    -> YEAR_OF_PUBLISH INTEGER(5) NOT NULL,
    -> FOREIGN KEY (SUPPLIER_ID) REFERENCES SUPPLIER(SUPPLIER_ID),
    -> FOREIGN KEY (CAT_ID) REFERENCES CATEGORY(CAT_ID)
    -> );
```



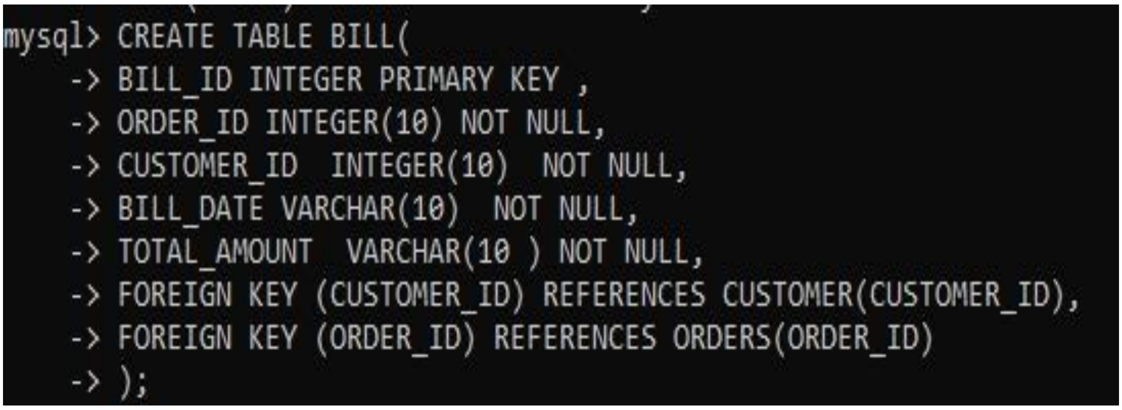
```
mysql> CREATE TABLE ORDERS(
    -> ORDER_ID INTEGER AUTO_INCREMENT PRIMARY KEY ,
    -> CUSTOMER_ID INTEGER(10)  NOT NULL,
    -> CB_ID VARCHAR(10)  NOT NULL,
    -> ORDER_DATE VARCHAR(10) NOT NULL,
    -> DELIVERY_STATUS VARCHAR(20) NOT NULL,
    -> FOREIGN KEY (CB_ID) REFERENCES COURRIERBOY(CB_ID),
    -> FOREIGN KEY (CUSTOMER_ID) REFERENCES CUSTOMER(CUSTOMER_ID)
    -> );
```



```
mysql> CREATE TABLE ORDER_DETAILS(
    -> ORDER_DETAIL_ID INTEGER PRIMARY KEY ,
    -> ,ORDER_ID INTEGER(10) NOT NULL,
    -> BOOK_ID INTEGER(10) NOT NULL,
    -> PRICE VARCHAR(10) NOT NULL,
    -> QUANTITY INTEGER(10) NOT NULL,
    -> FOREIGN KEY (ORDER_ID) REFERENCES ORDERS(ORDER_ID),
    -> FOREIGN KEY (BOOK_ID) REFERENCES BOOKS (BOOK_ID)
    -> );
```

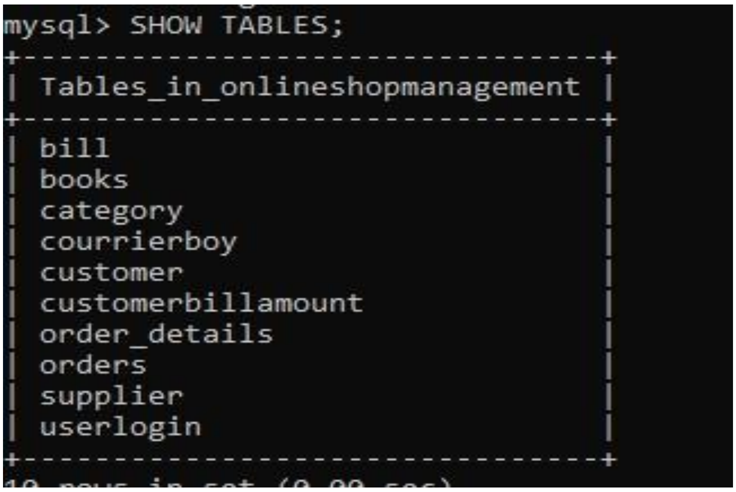


```
mysql> CREATE TABLE COURRIERBOY(
    -> CB_ID VARCHAR(5) PRIMARY KEY ,
    -> CB_NAME VARCHAR(10) NOT NULL,
    -> CB_PHONE_NO VARCHAR(10) NOT NULL
    -> );
```



```
mysql> CREATE TABLE BILL(
    -> BILL_ID INTEGER PRIMARY KEY ,
    -> ORDER_ID INTEGER(10) NOT NULL,
    -> CUSTOMER_ID  INTEGER(10)  NOT NULL,
    -> BILL_DATE VARCHAR(10)  NOT NULL,
    -> TOTAL_AMOUNT  VARCHAR(10 ) NOT NULL,
    -> FOREIGN KEY (CUSTOMER_ID) REFERENCES CUSTOMER(CUSTOMER_ID),
    -> FOREIGN KEY (ORDER_ID) REFERENCES ORDERS(ORDER_ID)
    -> );
```

Viewing all table in database



```
mysql> SHOW TABLES;
+-------------------------------+
| Tables_in_onlineshopmanagement |
+-------------------------------+
| bill                          |
| books                         |
| category                      |
| courrierboy                   |
| customer                      |
| customerbillamount            |
| order_details                 |
| orders                        |
| supplier                      |
| userlogin                     |
+-------------------------------+
10 rows in set (0.00 sec)
```

2.Inserting values

INSERT INTO USERLOGIN VALUES(121212,'Kajal@6455');

INSERT INTO CUSTOMER VALUES(1,'clark','4647549654','kakrola','newdelhi','clark543@gmail.com');

INSERT INTO BOOKS VALUES(010,'Java How To Do Program','S1','3','600.0','12','Paul J.Deitel ','Prentice Hall','1999');

INSERT INTO SUPPLIER VALUES ('S1','Jk store','9069901551','jks533@gmail.com');

INSERT INTO COURRIERBOY VALUES ('C1','sanjeet','8767450740');

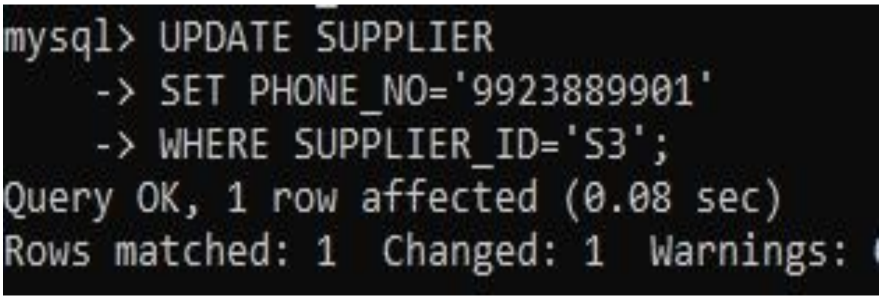
INSERT INTO CATEGORY VALUES(1,'Computer');

INSERT INTO ORDERS VALUES(1,'1','C1','01/12/2021','delivered');

INSERT INTO ORDER_DETAILS VALUES(01,'1','0170','400.0','1');

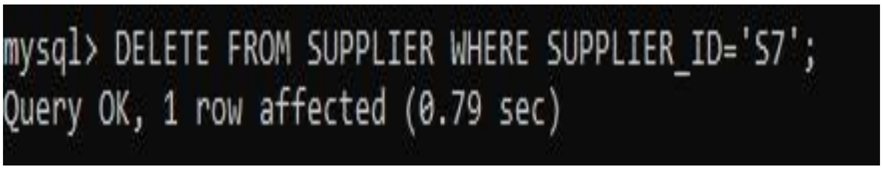
INSERT INTO BILL VALUES(001,'1','1','05/12/2021','$400.0');

Updating in a table



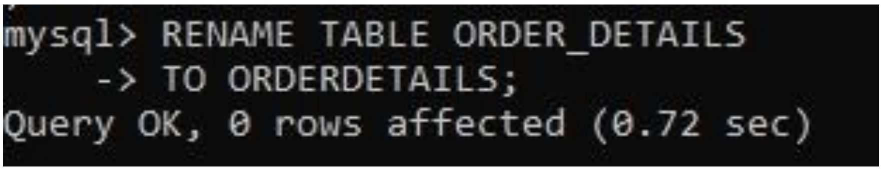
```
mysql> UPDATE SUPPLIER
    -> SET PHONE_NO='9923889901'
    -> WHERE SUPPLIER_ID='S3';
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings:
```

Deleting from a table



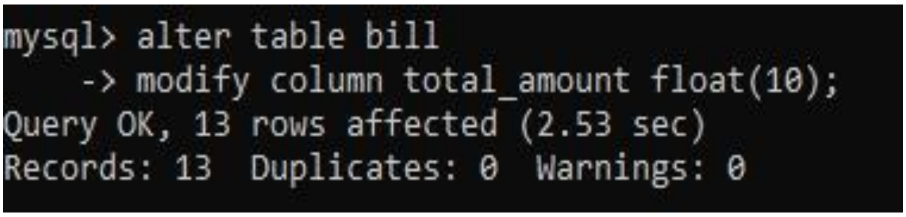
```
mysql> DELETE FROM SUPPLIER WHERE SUPPLIER_ID='S7';
Query OK, 1 row affected (0.79 sec)
```

Renaming table

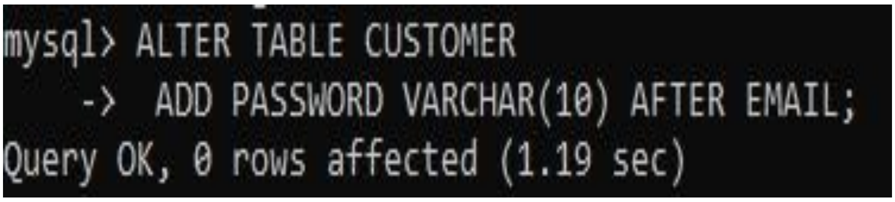


```
mysql> RENAME TABLE ORDER_DETAILS
    -> TO ORDERDETAILS;
Query OK, 0 rows affected (0.72 sec)
```

Altering in a table

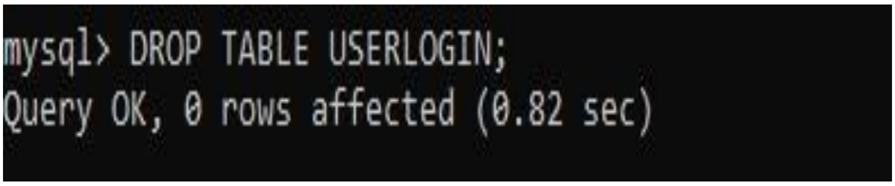


```
mysql> alter table bill
    -> modify column total_amount float(10);
Query OK, 13 rows affected (2.53 sec)
Records: 13  Duplicates: 0  Warnings: 0
```



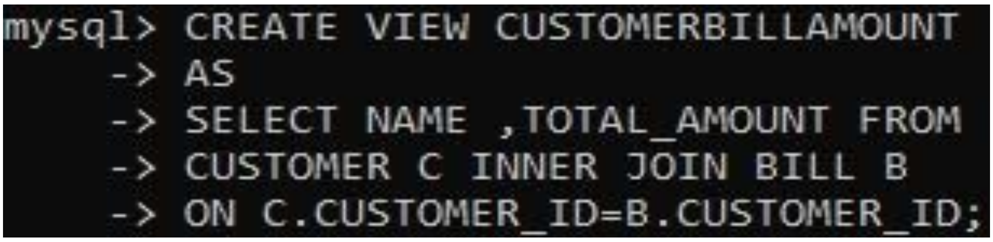
```
mysql> ALTER TABLE CUSTOMER
    ->  ADD PASSWORD VARCHAR(10) AFTER EMAIL;
Query OK, 0 rows affected (1.19 sec)
```

Dropping table

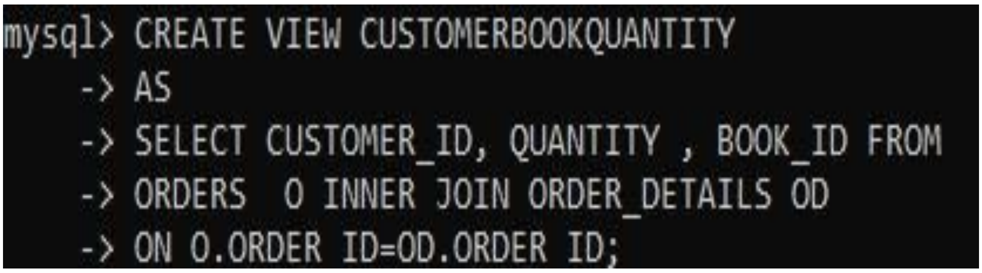


```
mysql> DROP TABLE USERLOGIN;
Query OK, 0 rows affected (0.82 sec)
```

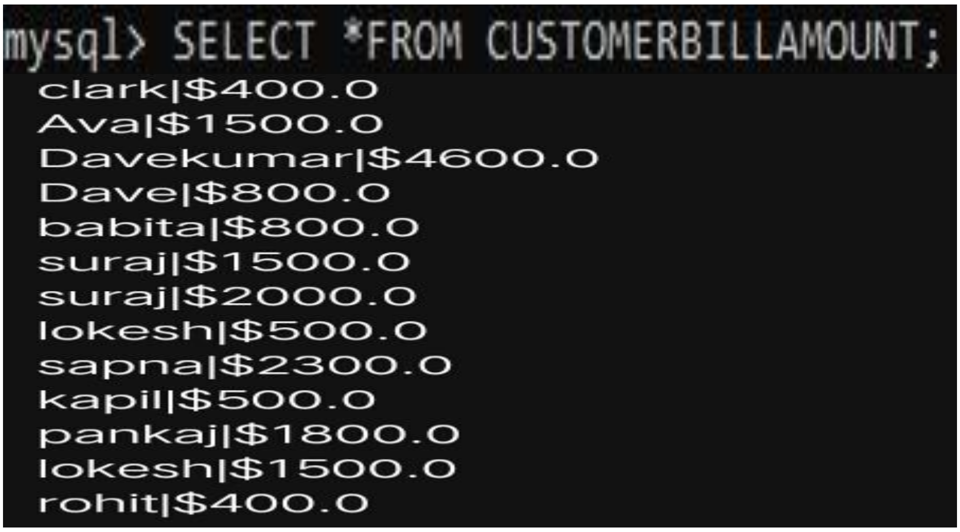
Views (Creating, Selecting, Dropping)



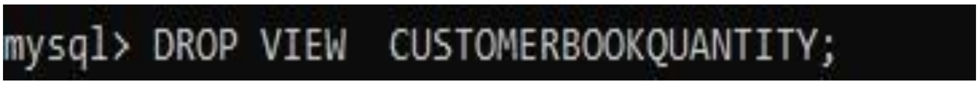
```
mysql> CREATE VIEW CUSTOMERBILLAMOUNT
    -> AS
    -> SELECT NAME ,TOTAL_AMOUNT FROM
    -> CUSTOMER C INNER JOIN BILL B
    -> ON C.CUSTOMER_ID=B.CUSTOMER_ID;
```



```
mysql> CREATE VIEW CUSTOMERBOOKQUANTITY
    -> AS
    -> SELECT CUSTOMER_ID, QUANTITY , BOOK_ID FROM
    -> ORDERS  O INNER JOIN ORDER_DETAILS OD
    -> ON O.ORDER ID=OD.ORDER ID;
```



```
mysql> SELECT *FROM CUSTOMERBILLAMOUNT;
  clark|$400.0
  Ava|$1500.0
  Davekumar|$4600.0
  Dave|$800.0
  babita|$800.0
  suraj|$1500.0
  suraj|$2000.0
  lokesh|$500.0
  sapna|$2300.0
  kapil|$500.0
  pankaj|$1800.0
  lokesh|$1500.0
  rohit|$400.0
```



```
mysql> DROP VIEW  CUSTOMERBOOKQUANTITY;
```

Relational Algebra Queries

1. Projection

Write a query to display customer id and name from customer table
Π Customer ID, name (customer)

2. Selection

Write a query to select tuples from books whose price is less than 600.

σ price<600 (Books)

3. Rename

Write a query to rename book_name attribute from table Books. ρ (_book_title/book_name)books

4. Union

Write a query to display all the customer ids from Customer and order id from orders tables.

∏ custimer_id (customer) ∪ ∏ order_id (orders)

5. Set intersection

Write a query to display the common customer ids from issue_status and return_status tables.

∏ cat_id (Books) ∩ ∏ cat_id (Category)

6. Set difference

Write a query to display the customer ids who have not ordered the books .

∏ customer_id (Customer) - ∏ customer_id (Orders)

7. Cartesian product

Write a query to perform cartesian product of tables books and category relations.

Books X category

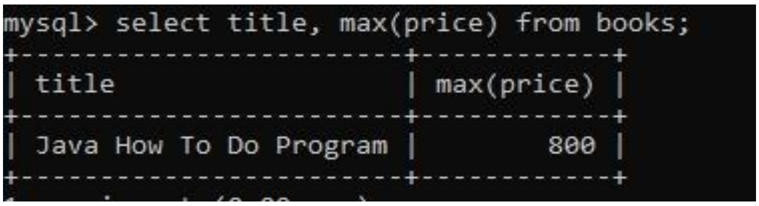
8. Join

Write a query to display the names of the books that are ordered by the customers.

∏ title (books ⋈ Orders)

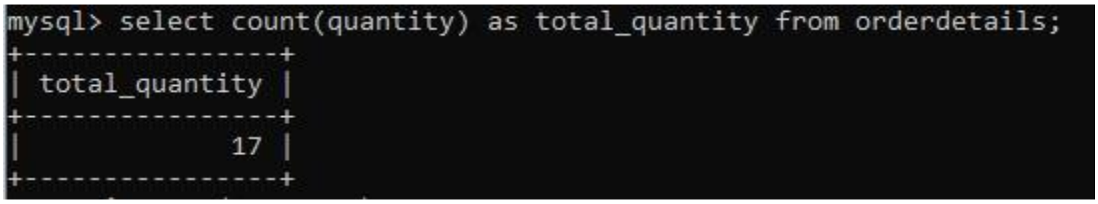
Queries

Display the book having maximum price?



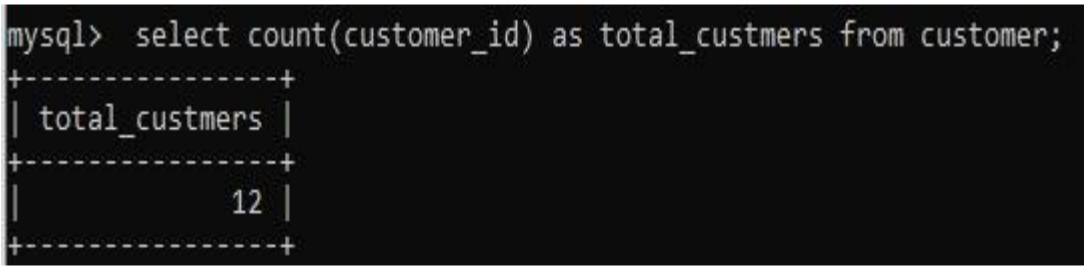
```
mysql> select title, max(price) from books;
+-----------------------+------------+
| title                 | max(price) |
+-----------------------+------------+
| Java How To Do Program |        800 |
+-----------------------+------------+
```

find average (quantity) of books ordered by the customers as with new name ?



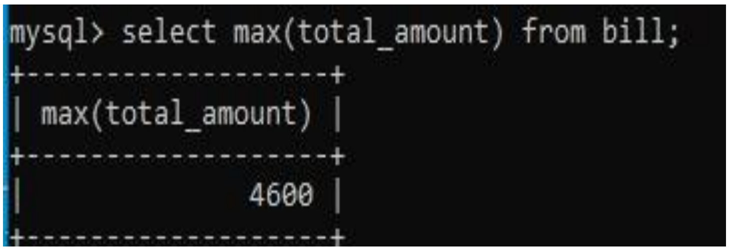
```
mysql> select count(quantity) as total_quantity from orderdetails;
+----------------+
| total_quantity |
+----------------+
|             17 |
+----------------+
```

Display the total number of customers



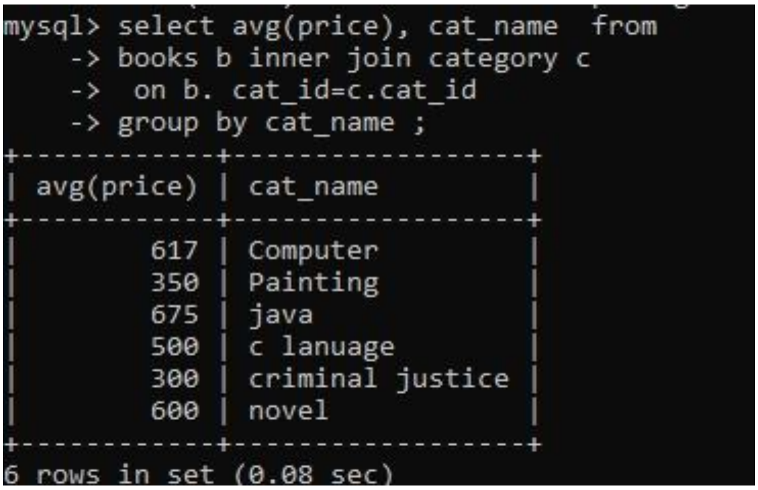
```
mysql>  select count(customer_id) as total_custmers from customer;
+----------------+
| total_custmers |
+----------------+
|             12 |
+----------------+
```

find maximum bill amount ?



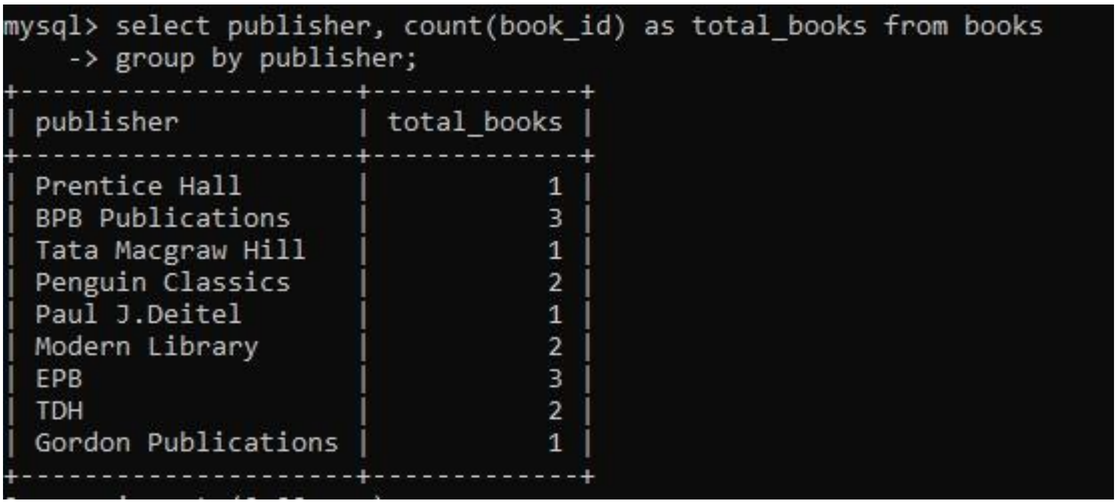
```
mysql> select max(total_amount) from bill;
+-------------------+
| max(total_amount) |
+-------------------+
|              4600 |
+-------------------+
```

Display average price for each category of book?



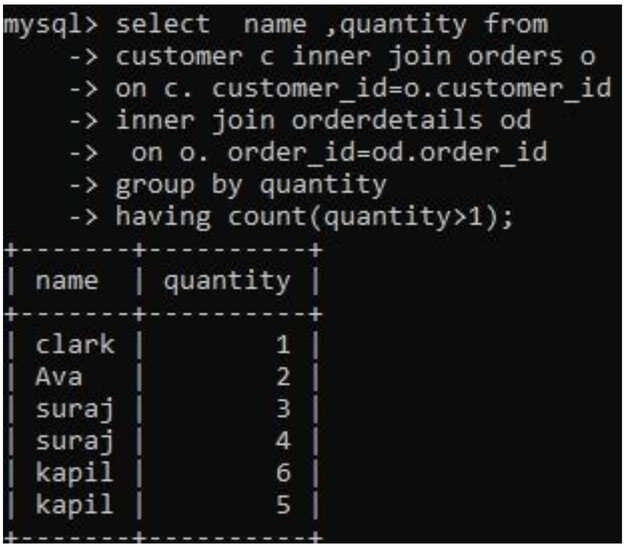
```
mysql> select avg(price), cat_name  from
    -> books b inner join category c
    ->  on b. cat_id=c.cat_id
    -> group by cat_name ;
+------------+------------------+
| avg(price) | cat_name         |
+------------+------------------+
|        617 | Computer         |
|        350 | Painting         |
|        675 | java             |
|        500 | c lanuage        |
|        300 | criminal justice |
|        600 | novel            |
+------------+------------------+
6 rows in set (0.08 sec)
```

Display publisher total number of books written by each publisher?



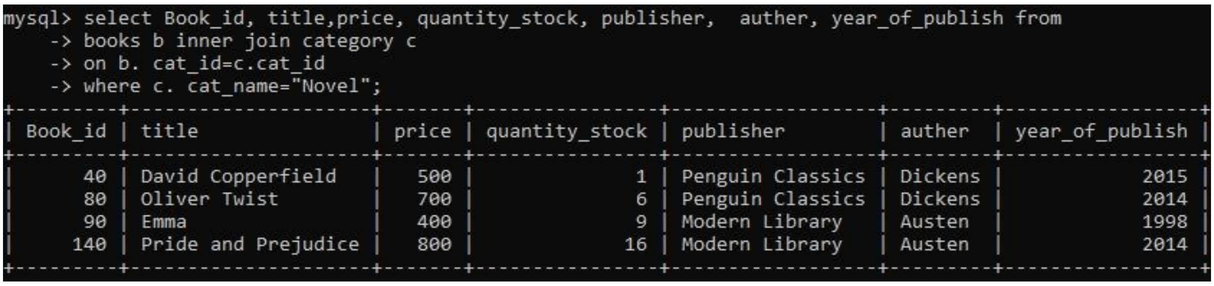
```
mysql> select publisher, count(book_id) as total_books from books
    -> group by publisher;
+--------------------+-------------+
| publisher          | total_books |
+--------------------+-------------+
| Prentice Hall      |           1 |
| BPB Publications   |           3 |
| Tata Macgraw Hill  |           1 |
| Penguin Classics   |           2 |
| Paul J.Deitel      |           1 |
| Modern Library     |           2 |
| EPB                |           3 |
| TDH                |           2 |
| Gordon Publications |          1 |
+--------------------+-------------+
```

display the customers who have ordered the books with each quantity greater than one ?



```
mysql> select  name ,quantity from
    -> customer c inner join orders o
    -> on c. customer_id=o.customer_id
    -> inner join orderdetails od
    ->  on o. order_id=od.order_id
    -> group by quantity
    -> having count(quantity>1);
+-------+----------+
| name  | quantity |
+-------+----------+
| clark |        1 |
| Ava   |        2 |
| suraj |        3 |
| suraj |        4 |
| kapil |        6 |
| kapil |        5 |
+-------+----------+
```

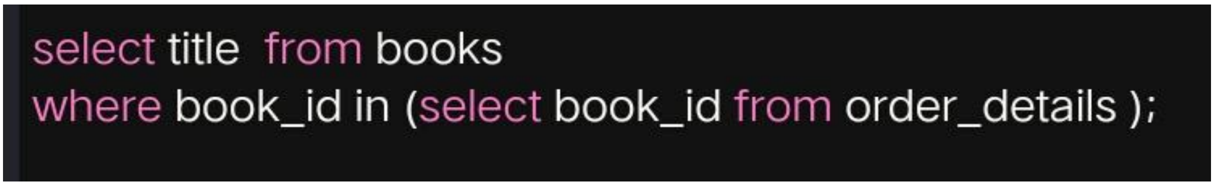
Display the details of books belong to novel category?



```
mysql> select Book_id, title,price, quantity_stock, publisher,  auther, year_of_publish from
    -> books b inner join category c
    -> on b. cat_id=c.cat_id
    -> where c. cat_name="Novel";
+---------+---------------------+-------+----------------+------------------+---------+-----------------+
| Book_id | title               | price | quantity_stock | publisher        | auther  | year_of_publish |
+---------+---------------------+-------+----------------+------------------+---------+-----------------+
|      40 | David Copperfield   |   500 |              1 | Penguin Classics | Dickens |            2015 |
|      80 | Oliver Twist        |   700 |              6 | Penguin Classics | Dickens |            2014 |
|      90 | Emma                |   400 |              9 | Modern Library   | Austen  |            1998 |
|     140 | Pride and Prejudice |   800 |             16 | Modern Library   | Austen  |            2014 |
+---------+---------------------+-------+----------------+------------------+---------+-----------------+
```

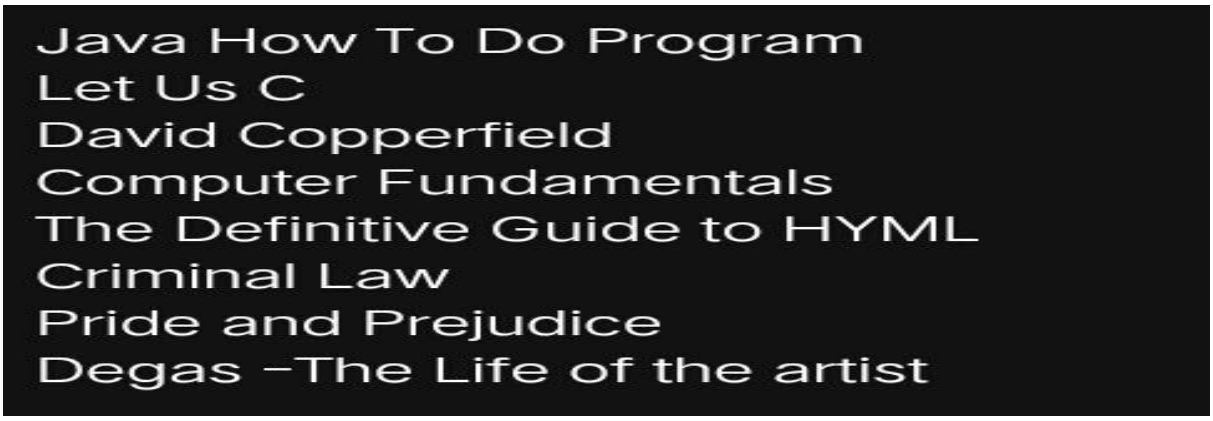
Display the title of books ordered by the customer using In subquery.?

Input query:



```
select title  from books
where book_id in (select book_id from order_details );
```

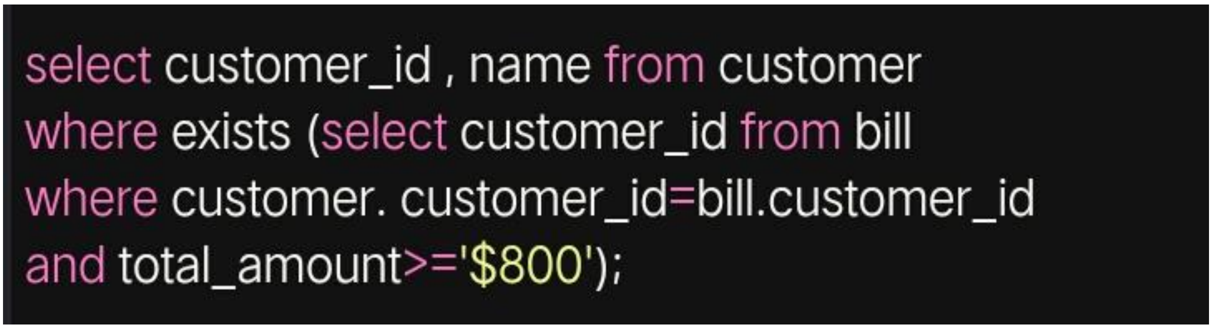
Output :



```
Java How To Do Program
Let Us C
David Copperfield
Computer Fundamentals
The Definitive Guide to HYML
Criminal Law
Pride and Prejudice
Degas -The Life of the artist
```

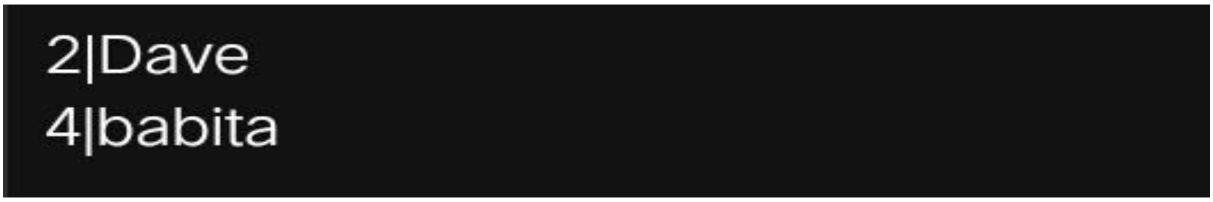
Display customer_id, name having bill amount greater than 800.?

Input query:



```
select customer_id , name from customer
where exists (select customer_id from bill
where customer. customer_id=bill.customer_id
and total_amount>='$800');
```

Output:



```
2|Dave
4|babita
```

CONCLUSION

- SQL database management application which is very well used in the modern world in organizing and manipulating a database.
- Though SQL doesn’t have the GUI interface like Microsoft access is having and they all manage the database comfortably.
- Depending on the user or users, if an organisation has multiple users then they should go for SQL server based application.
- This project shows how to create tables in SQL and how to create simple data manipulation language and data definition language with how to execute them.