DataBase Management System

Mini Project

Title : Online Book Store Management

Submitted By:

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V Semester Section : I

Short Description and Scope of the Project

Online BookStore Management is a project that manages and stores books information electronically according to users needs. The system helps both user and admin to keep a constant track of all the books available in the book store. It allows both the admin and the user to search for the desired book.
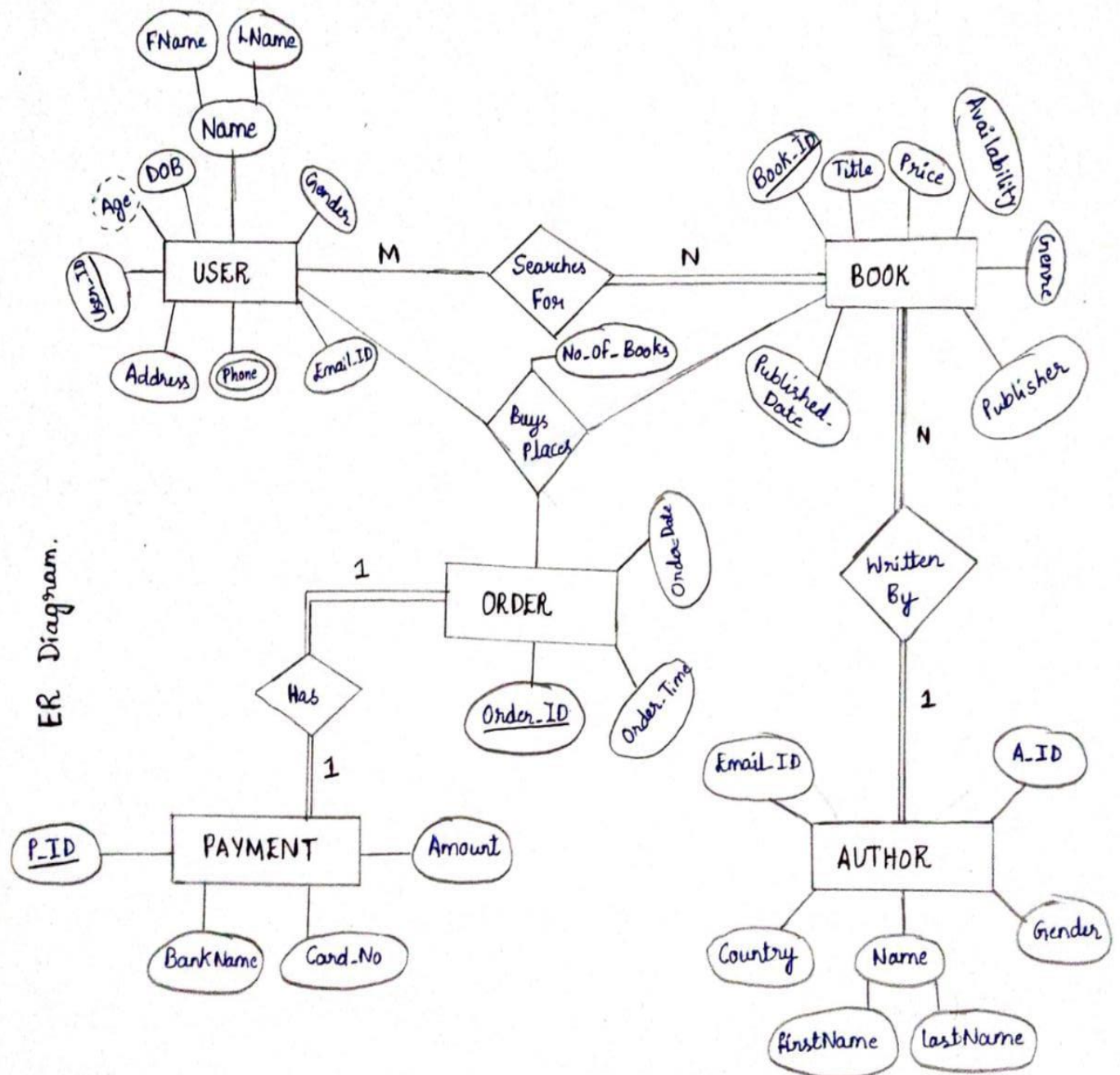
The Online Book Store is an easy to maintain,ready to run,scalable,affordable and reliable cost saving tool from Software Associates suited for small,medium, and large shopping complex and shopping malls.

It can be used to shop while being in the comfort of your own home,without having to step out of the door.

Online book store system project allows customer to buy books online from seller's website in real-time system and pay using Online banking. Online bookstore project can manage all the working of Online shopping website and it also manage the back office process whenever we buy books online.
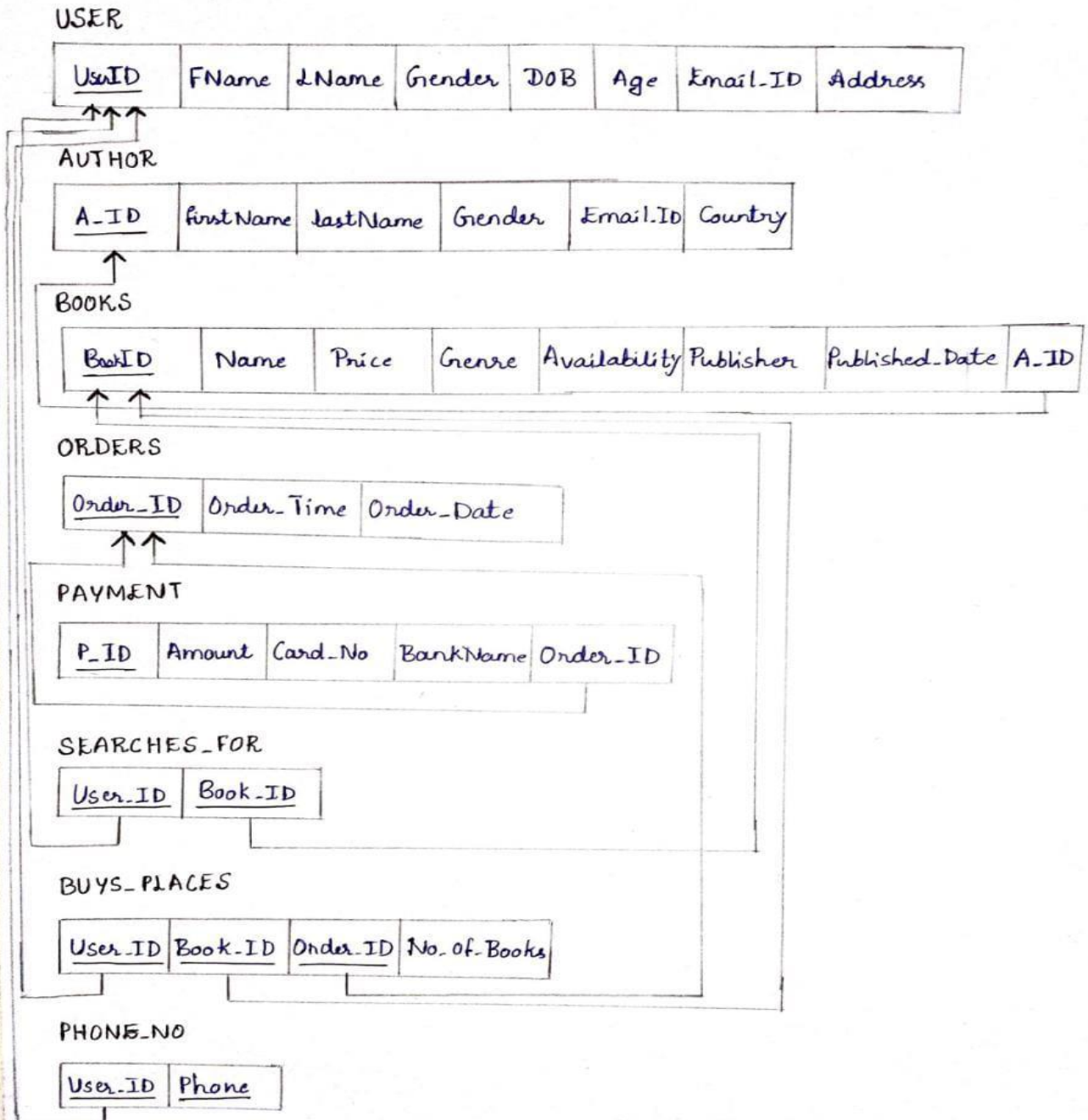
The proposed system can be used even by the naïve users and it does not require any educational level,experience, and technical expertise in computer field.

ER Diagram

ER Diagram.

USER — FName, LName, Name, DOB, Age, Gender, User-ID, Address, Phone, Email.ID

BOOK — Book.ID, Title, Price, Availability, Genre, Published Date, Publisher

USER M — **Searches For** — N **BOOK**

No-of-Books

Buys Places

ORDER — Order Date, Order-ID, Order-Time

1 — **Has** — 1

PAYMENT — P_ID, Amount, Bank Name, Card-No

Written By — N ... 1

AUTHOR — Email ID, A_ID, Country, Name (First Name, Last Name), Gender

Relation Schema

Relation Schema.

USER

UserID	FName	LName	Gender	DOB	Age	Email-ID	Address

AUTHOR

A_ID	firstName	lastName	Gender	Email.ID	Country

BOOKS

BookID	Name	Price	Genre	Availability	Publisher	Published_Date	A_ID

ORDERS

Order_ID	Order_Time	Order_Date

PAYMENT

P_ID	Amount	Card_No	BankName	Order_ID

SEARCHES_FOR

User_ID	Book_ID

BUYS_PLACES

User_ID	Book_ID	Order_ID	No. of_Books

PHONE_NO

User_ID	Phone

DDL statements - Building the database

Create Database PES1UG20CS535_Project;

Creating the tables

```sql
Create table User(
User_ID int(11),
FName varchar(20),
LName varchar(20),
DOB Date,
Age int(4) DEFAULT NULL,
Gender varchar(1),
Address varchar(30),
Email_ID varchar(30)
);

Create Table Author(
A_ID int(11),
firstName varchar(20),
lastName varchar(20),
Email_ID varchar(20),
Gender varchar(1),
Country varchar(20)
);

Create Table Books(
Book_ID int(11),
Title varchar(30),
Price int(6),
Genre varchar(25),
Publisher varchar(20),
Published_Date date,
A_ID int(11),
Availabilty int(6)
);

Create Table Orders(
Order_ID int(11),
Order_Time varchar(10),
Order_Date date
);

Create Table Payment(
P_id int(11),
```

```sql
Amount int(10) DEFAULT NULL,
BankName varchar(30),
Card_No int(10),
Order_ID int(11)
);

Create Table Phone_Number(
User_ID int(11),
Phone_No varchar(15)
);


Create Table Searches_For(
User_ID int(11),
Book_ID int(11)
);

Create Table Buys_Places(
User_ID int(11),
Book_ID int(11),
Order_ID int(11),
No_Of_Books int(6)
);
```

```
MariaDB [(none)]> create database PES1UG20CS535_Project;
Query OK, 1 row affected (0.010 sec)

MariaDB [(none)]> use PES1UG20CS535_Project;
Database changed
MariaDB [PES1UG20CS535_Project]> source C:/Users/admin/Desktop/DBMS_Project/Library/book.sql
Query OK, 0 rows affected (0.072 sec)

Query OK, 0 rows affected (0.050 sec)

Query OK, 0 rows affected (0.057 sec)

Query OK, 0 rows affected (0.049 sec)

Query OK, 0 rows affected (0.050 sec)

Query OK, 0 rows affected (0.066 sec)

Query OK, 0 rows affected (0.059 sec)

Query OK, 0 rows affected (0.051 sec)

MariaDB [PES1UG20CS535_Project]> show tables;
+-------------------------------+
| Tables_in_pes1ug20cs535_project |
+-------------------------------+
| author                        |
| books                         |
| buys_places                   |
| orders                        |
| payment                       |
| phone_number                  |
| searches_for                  |
| user                          |
+-------------------------------+
8 rows in set (0.013 sec)

MariaDB [PES1UG20CS535_Project]>
```

DML Commands

```sql
ALTER TABLE User
ADD PRIMARY KEY(User_ID);

ALTER TABLE Author
ADD PRIMARY KEY(A_ID);

ALTER TABLE Books
ADD PRIMARY KEY(Book_ID);

ALTER TABLE Orders
```

```sql
ADD PRIMARY KEY(Order_ID);

ALTER TABLE Payment
ADD PRIMARY KEY(P_ID);

ALTER TABLE Searches_For
ADD PRIMARY KEY(User_ID,Book_ID);

ALTER TABLE Buys_Places
ADD PRIMARY KEY(User_ID,Book_ID,Order_ID);

ALTER TABLE Phone_Number
ADD PRIMARY KEY(User_ID,Phone_no);

ALTER TABLE Books
ADD CONSTRAINT Books5 FOREIGN KEY (A_id) REFERENCES Author(A_id)
ON DELETE CASCADE
ON UPDATE CASCADE;

ALTER TABLE Payment
ADD CONSTRAINT Pay1 FOREIGN KEY (Order_ID) REFERENCES Orders(Order_ID)
ON DELETE CASCADE
ON UPDATE CASCADE;

ALTER TABLE Searches_For
ADD CONSTRAINT SF1 FOREIGN KEY (User_ID) REFERENCES User(User_ID)
ON DELETE CASCADE
ON UPDATE CASCADE;

ALTER TABLE Searches_For
ADD CONSTRAINT SF2 FOREIGN KEY (Book_ID) REFERENCES Books(Book_ID)
ON DELETE CASCADE
ON UPDATE CASCADE;

ALTER TABLE Buys_Places
ADD CONSTRAINT BF1 FOREIGN KEY (User_ID) REFERENCES User(User_ID)
ON DELETE CASCADE
ON UPDATE CASCADE;

ALTER TABLE Buys_Places
ADD CONSTRAINT BF2 FOREIGN KEY (Book_ID) REFERENCES Books(Book_ID)
ON DELETE CASCADE
ON UPDATE CASCADE;
```

```sql
ALTER TABLE Buys_Places
ADD CONSTRAINT BF3 FOREIGN KEY (Order_ID) REFERENCES Orders(Order_ID)
ON DELETE CASCADE
ON UPDATE CASCADE;


ALTER TABLE Phone_Number
ADD CONSTRAINT PN FOREIGN KEY (User_ID) REFERENCES User(User_ID)
ON DELETE CASCADE
ON UPDATE CASCADE;
```

Populating the Database

```sql
INSERT INTO User VALUES
(10,'Almas','Banu','2002-08-
04',NULL,'F','Bengaluru','almas.banu082002@gmail.com'),
(11,'Rishi','Singh','1998-09-04',NULL,'M','Jaipur','rishisingh@gmail.com'),
(12,'Deepika','Padukone','1989-10-
10',NULL,'F','Mumbai','deepika123@gmail.com'),
(13,'Sandeep','Mishra','1979-11-08',NULL,'M','Washington
DC','sandeep@gmail.com'),
(14,'M S','Dhoni','1985-08-06',NULL,'M','Ranchi','dhonicool@gmail.com'),
(15,'Rani','Mukherji','1995-09-
10',NULL,'F','Mumbai','ranimukherji@gmail.com'),
(16,'Raj','Malhotra','1996-02-08',NULL,'M','New
Delhi','rajmalhotra@gmail.com'),
(17,'Mani','Teja','1998-03-12',NULL,'F','Chennai','maniteja@gmail.com');

-- (100-)
INSERT INTO Author VALUES
(100,'Rabindranath','Tagore','rabindranath@gmail.com','M','India'),
(101,'Jhumpa','Lahiri','jhumpa345@gmail.com','F','India'),
(102,'Krishnaswami','Narayan','narayan@gmail.com','M','India'),
(103,'Chetan','Bhagat','chetanbhagat@gmail.com','M','India'),
(104,'Sudha','Murthy','sudamurthy@gmail.com','F','India'),
(105,'Amrita','Pritam','amritapritam@gmail.com','F','India');

-- (200-)
INSERT INTO Books VALUES
(200,'Gitanjali',200,'Poetry','Simon Schuster','1910-08-14',100,200),
(201,'2 States',500,'Romance','Rupa Publications','2014-01-01',103,150),
(202,'Three Thousand Stiches',300,'Fiction','Penguin House','2017-09-
16',104,300),
(203,'The Guide',250,'Humor','RK Publications','1958-11-14',102,100),
(204,'In Other Words',700,'Poetry','Lehri Publications','1985-08-05',101,75),
(205,'The Home and the World',500,'Novel','Anthem Press','1916-09-10',100,80),
(206,'Unaccustomed Earth',600,'Short Stories','Random House','2008-04-
04',101,50),
(207,'Half Girlfriend',195,'Romance','Rupa & Co','2014-08-01',103,70),
(208,'Pinjar',175,'Social','Tara Publications','1950-06-21',105,85);

-- (300-)
INSERT INTO Orders VALUES
(300,'10:30:00','2022-10-09'),
(301,'12:09:00','2022-08-04'),
(302,'11:30:00','2021-10-11'),
```

```sql
(303,'06:40:00','2020-05-06'),
(304,'02:09:00','2021-09-21'),
(305,'09:00:00','2020-07-06'),
(306,'11:00:00','2022-09-10');

-- (400-)
INSERT INTO Payment VALUES
(400,NULL,'Union Bank of India',98764563,300),
(401,NULL,'ICICI Bank',77885231,302),
(402,NULL,'State Bank of India',62354789,301),
(403,NULL,'HDFC Bank',87456123,303),
(404,NULL,'Canara Bank',78945231,304),
(405,NULL,'Kotak Bank',90867522,306);

INSERT INTO Phone_Number VALUES
(10,'9008104357'),
(11,'8722858717'),
(12,'7986543219'),
(11,'9972513467'),
(13,'8954781028'),
(14,'9875443127'),
(12,'9086351723'),
(13,'8739180193');

INSERT INTO Searches_For VALUES
(10,201),
(11,202),
(12,201),
(11,204),
(13,203),
(14,200);

INSERT INTO Buys_Places VALUES
(10,201,300,3),
(11,200,301,6),
(14,202,302,9),
(12,204,303,8),
(11,203,304,7),
(13,202,305,4);
```

User

| | Browse | | Structure | | SQL | | Search | | Insert | | Export | | Import | |

```
SELECT * FROM `user`
```

☐ Show all | Number of rows: 25 ˅ | Filter rows: | Search this table |

+ Options

User_ID	FName	LName	DOB	Age	Gender	Address	Email_ID
10	Almas	Banu	2002-08-04	*NULL*	F	Bengaluru	almas.banu082002@gmail.com
11	Rishi	Singh	1998-09-04	*NULL*	M	Jaipur	rishisingh@gmail.com
12	Deepika	Padukone	1989-10-10	*NULL*	F	Mumbai	deepika123@gmail.com
13	Sandeep	Mishra	1979-11-08	*NULL*	M	Washington DC	sandeep@gmail.com
14	M S	Dhoni	1985-08-06	*NULL*	M	Ranchi	dhonicool@gmail.com
15	Rani	Mukherji	1995-09-10	*NULL*	F	Mumbai	ranimukherji@gmail.com
16	Raj	Malhotra	1996-02-08	*NULL*	M	New Delhi	rajmalhotra@gmail.com
17	Mani	Teja	1998-03-12	*NULL*	F	Chennai	maniteja@gmail.com

☐ Show all | Number of rows: 25 ˅ | Filter rows: | Search this table |

Author

```
SELECT * FROM `author`
```

☐ Show all | Restore column order | Number of rows: 25 ⌄ Fil

+ Options

A_ID	firstName	lastName	Gender	Email_ID	Country
100	Rabindranath	Tagore	M	rabindranath@gmail.c	India
101	Jhumpa	Lahiri	F	jhumpa345@gmail.com	India
102	Krishnaswami	Narayan	M	narayan@gmail.com	India
103	Chetan	Bhagat	M	chetanbhagat@gmail.c	India
104	Sudha	Murthy	F	sudamurthy@gmail.com	India
105	Amrita	Pritam	F	amritapritam@gmail.c	India

Books

```
SELECT * FROM `books`
```

☐ Show all | Number of rows: 25 ⌄ Filter rows: Search this table

+ Options

Book_ID	Title	Price	Genre	Publisher	Published_Date	A_ID	Availabilty
200	Gitanjali	200	Poetry	Simon Schuster	1910-08-14	100	200
201	2 States	500	Romance	Rupa Publications	2014-01-01	103	150
202	Three Thousand Stiches	300	Fiction	Penguin House	2017-09-16	104	300
203	The Guide	250	Humor	RK Publications	1958-11-14	102	100
204	In Other Words	700	Poetry	Lehri Publications	1985-08-05	101	75
205	The Home and the World	500	Novel	Anthem Press	1916-09-10	100	80
206	Unaccustomed Earth	600	Short Stories	Random House	2008-04-04	101	50
207	Half Girlfriend	195	Romance	Rupa & Co	2014-08-01	103	70
208	Pinjar	175	Social	Tara Publications	1950-06-21	105	85

Buys_Places

```
SELECT * FROM `buys_places`
```

Show all | Number of rows: 25 ⌄   Filter rows

+ Options

User_ID	Book_ID	Order_ID	No_Of_Books
10	201	300	3
11	200	301	6
14	202	302	9
12	204	303	8
11	203	304	7
13	202	305	4

Orders

```
SELECT * FROM `orders`
```

Show all | Number of rows: 25 ⌄   Filter rows:

+ Options

Order_ID	Order_Time	Order_Date
300	10:30:00	2022-10-09
301	12:09:00	2022-08-04
302	11:30:00	2021-10-11
303	06:40:00	2020-05-06
304	02:09:00	2021-09-21
305	09:00:00	2020-07-06
306	11:00:00	2022-09-10

Payment

```
SELECT * FROM `payment`
```

☐ Show all | Number of rows: 25 ⌄   Filter rows:

+ Options

P_id	Amount	BankName	Card_No	Order_ID
400	NULL	Union Bank of India	98764563	300
401	NULL	ICICI Bank	77885231	302
402	NULL	State Bank of India	62354789	301
403	NULL	HDFC Bank	87456123	303
404	NULL	Canara Bank	78945231	304
405	NULL	Kotak Bank	90867522	306

Phone_Number

```
SELECT * FROM `phone_number`
```

☐ Show all | Number of rows: 25 ⌄

+ Options

User_ID	Phone_No
10	9008104357
11	8722858717
12	7986543219
11	9972513467
13	8954781028
14	9875443127
12	9086351723
13	8739180193

Searches_For

```
SELECT * FROM `searches_for`
```

☐ Show all | Number of rows: 25 ▾

+ Options

User_ID	Book_ID
10	201
11	202
12	201
11	204
13	203
14	200

User Interface

Online BookStore Management App

Users Details   ⌃

	User ID	FName	LName	DOB	Age	Gend	Address	Email_ID
0	10	Almas	Banu	2002-08-04	<NA>	F	Bengaluru	almas.banu082002@gmail
1	11	Rishi	Singh	1998-09-04	<NA>	M	Jaipur	rishisingh@gmail.com
2	12	Deepika	Padukone	1989-10-10	<NA>	F	Mumbai	deepika123@gmail.com
3	13	Sandeep	Mishra	1979-11-08	<NA>	M	Washington DC	sandeep@gmail.com
4	14	M S	Dhoni	1985-08-06	<NA>	M	Ranchi	dhonicool@gmail.com
5	15	Rani	Mukherji	1995-09-10	<NA>	F	Mumbai	ranimukherji@gmail.com
6	16	Raj	Malhotra	1996-02-08	<NA>	M	New Delhi	rajmalhotra@gmail.com
7	17	Mani	Teja	1998-03-12	<NA>	F	Chennai	maniteja@gmail.com

Authors Details

	Author ID	firstName	lastName	EmailID	Gender	Country
0	100	Rabindranath	Tagore	rabindranath@gmail.c	M	India
1	101	Jhumpa	Lahiri	jhumpa345@gmail.com	F	India
2	102	Krishnaswami	Narayan	narayan@gmail.com	M	India
3	103	Chetan	Bhagat	chetanbhagat@gmail.c	M	India
4	104	Sudha	Murthy	sudamurthy@gmail.com	F	India
5	105	Amrita	Pritam	amritapritam@gmail.c	F	India

Books Details

	BookID	Title	Price	Genre	Publisher	Published_Date	A_ID
0	200	Gitanjali	200	Poetry	Simon Schuster	1910-08-14	100
1	201	2 States	500	Romance	Rupa Publications	2014-01-01	103
2	202	Three Thousand Stiches	300	Fiction	Penguin House	2017-09-16	104
3	203	The Guide	250	Humor	RK Publications	1958-11-14	102
4	204	In Other Words	700	Poetry	Lehri Publications	1985-08-05	101
5	205	The Home and the World	500	Novel	Anthem Press	1916-09-10	100
6	206	Unaccustomed Earth	600	Short Stories	Random House	2008-04-04	101
7	207	Half Girlfriend	195	Romance	Rupa & Co	2014-08-01	103
8	208	Pinjar	175	Social	Tara Publications	1950-06-21	105

Orders Details

	OrderID	Order_Time	Order_Date
0	300	10:30:00	2022-10-09
1	301	12:09:00	2022-08-04
2	302	11:30:00	2021-10-11
3	303	06:40:00	2020-05-06
4	304	02:09:00	2021-09-21
5	305	09:00:00	2020-07-06
6	306	11:00:00	2022-09-10

Payment Details

	PID	Amount	BankName	Card_No	Order_ID
0	400	<NA>	Union Bank of India	98764563	300
1	401	<NA>	ICICI Bank	77885231	302
2	402	<NA>	State Bank of India	62354789	301
3	403	<NA>	HDFC Bank	87456123	303
4	404	<NA>	Canara Bank	78945231	304
5	405	<NA>	Kotak Bank	90867522	306

Join Queries

List the name of Users who has bought atleast 1 book.
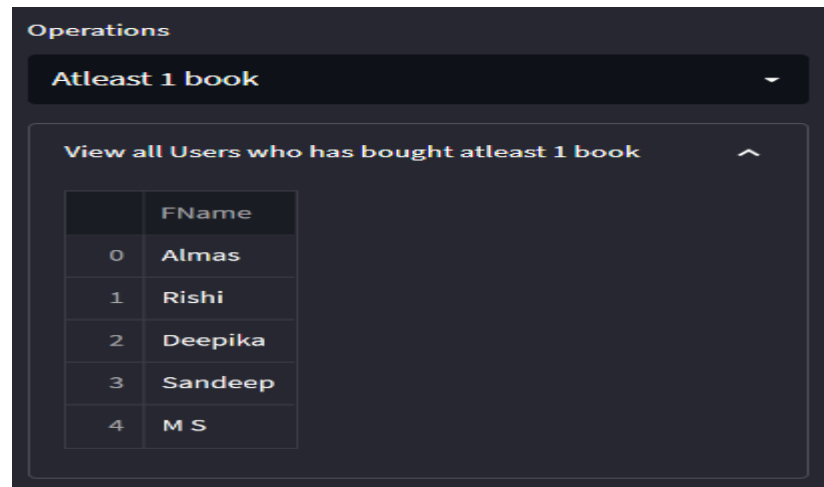
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT DISTINCT Fname AS Name
    -> From User NATURAL JOIN Buys_Places
    -> WHERE User.User_ID = Buys_Places.User_ID;
+---------+
| Name    |
+---------+
| Almas   |
| Rishi   |
| Deepika |
| Sandeep |
| M S     |
+---------+
5 rows in set (0.001 sec)

MariaDB [PES1UG20CS535_Project]>
```

Output :

Operations
Atleast 1 book ▾

View all Users who has bought atleast 1 book ⌄

	FName
0	Almas
1	Rishi
2	Deepika
3	Sandeep
4	M S

Update the Amount in Payments Table (Hint : Price * No_Of_Books)

Query:

```
UPDATE Payment as p INNER JOIN Buys_Places as bp
ON p.Order_ID = bp.Order_ID INNER JOIN Books as b
ON bp.Book_ID = b.Book_ID
SET p.Amount = b.Price * bp.No_Of_Books;
```

Output

Payment Data With Updated Data

	PID	Amount	BankName	Card_No	Order_ID
0	400	1500	Union Bank of India	98764563	300
1	401	2700	ICICI Bank	77885231	302
2	402	1200	State Bank of India	62354789	301
3	403	5600	HDFC Bank	87456123	303
4	404	1750	Canara Bank	78945231	304

Retrieve all the female users who has bought atleast 1 book.

Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT Distinct User_ID,FName,LName,DOB,Gender,Address,Email_ID
    -> From User NATURAL JOIN Buys_Places
    -> WHERE User.User_ID = Buys_Places.User_ID and Gender = 'F';
+---------+---------+----------+------------+--------+-----------+-------------------------------+
| User_ID | FName   | LName    | DOB        | Gender | Address   | Email_ID                      |
+---------+---------+----------+------------+--------+-----------+-------------------------------+
|      10 | Almas   | Banu     | 2002-08-04 | F      | Bengaluru | almas.banu082002@gmail.com    |
|      12 | Deepika | Padukone | 1989-10-10 | F      | Mumbai    | deepika123@gmail.com          |
+---------+---------+----------+------------+--------+-----------+-------------------------------+
2 rows in set (0.001 sec)

MariaDB [PES1UG20CS535_Project]>
```

Output:

Online BookStore Management App

Retrieve all the female users who has bought atleast 1 book   ⌃

	User_ID	FName	LName	DOB	Gender	Address	Email_ID
0	10	Almas	Banu	2002-08-04	F	Bengaluru	almas.banu082002@gmail.com
1	12	Deepika	Padukone	1989-10-10	F	Mumbai	deepika123@gmail.com

Retrieve first and last name of users who have searched a book with price > 400.
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT DISTINCT Fname,Lname FROM User as u INNER JOIN Searches_For as
    -> ON u.User_ID = s.User_ID INNER JOIN Books as b
    -> ON s.Book_ID = b.Book_ID and b.price > 400;
+---------+----------+
| Fname   | Lname    |
+---------+----------+
| Almas   | Banu     |
| Deepika | Padukone |
| Rishi   | Singh    |
+---------+----------+
3 rows in set (0.011 sec)

MariaDB [PES1UG20CS535_Project]>
```

Output:

Operations

Price > 400

Retrieve first and last name of users who have searched a book with price > 400 ︿

	FName	LName
0	Almas	Banu
1	Deepika	Padukone
2	Rishi	Singh

Aggregate Functions

Find the number of books sold grouped by each author.
Query and Output:

```
MariaDB [PES1UG20CS535_Project]> SELECT A_ID,SUM(No_Of_Books) as Number_of_Books_Sold
    -> From Books INNER JOIN Buys_Places
    -> Where (Books.Book_Id = Buys_Places.Book_ID)
    -> Group by A_ID;
+-------+----------------------+
| A_ID  | Number_of_Books_Sold |
+-------+----------------------+
|  100  |                    6 |
|  101  |                    8 |
|  102  |                    7 |
|  103  |                    3 |
|  104  |                   13 |
+-------+----------------------+
5 rows in set (0.011 sec)

MariaDB [PES1UG20CS535_Project]>
```

Find the number of books written by each author.
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT A_ID,firstName,lastName,Count(Books.A_ID) AS No_of_Books
    -> From Books NATURAL JOIN Author
    -> GROUP BY Books.A_ID;
+-------+--------------+----------+-------------+
| A_ID  | firstName    | lastName | No_of_Books |
+-------+--------------+----------+-------------+
|  100  | Rabindranath | Tagore   |           2 |
|  101  | Jhumpa       | Lahiri   |           2 |
|  102  | Krishnaswami | Narayan  |           1 |
|  103  | Chetan       | Bhagat   |           2 |
|  104  | Sudha        | Murthy   |           1 |
|  105  | Amrita       | Pritam   |           1 |
+-------+--------------+----------+-------------+
6 rows in set (0.001 sec)

MariaDB [PES1UG20CS535_Project]>
```

Output:

Online BookStore Management App

Find the number of books written by each author.

	Author_ID	firstName	lastName	Number_Of_Books
0	100	Rabindranath	Tagore	2
1	101	Jhumpa	Lahiri	2
2	102	Krishnaswami	Narayan	1
3	103	Chetan	Bhagat	2
4	104	Sudha	Murthy	1
5	105	Amrita	Pritam	1

Display Average Price of the books present in the store now
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT AVG(Price) as Average_Price From Books;
+---------------+
| Average_Price |
+---------------+
|      380.0000 |
+---------------+
1 row in set (0.000 sec)

MariaDB [PES1UG20CS535_Project]>
```

Display the details of Book which has Maximum Price in the store.
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT * From Books
    -> WHERE Price = (SELECT MAX(Price) From Books);
+---------+---------------+-------+--------+-------------------+----------------+------+-------------+
| Book_ID | Title         | Price | Genre  | Publisher         | Published_Date | A_ID | Availabilty |
+---------+---------------+-------+--------+-------------------+----------------+------+-------------+
|     204 | In Other Words |  700 | Poetry | Lehri Publications | 1985-08-05     |  101 |          75 |
+---------+---------------+-------+--------+-------------------+----------------+------+-------------+
1 row in set (0.003 sec)

MariaDB [PES1UG20CS535_Project]>
```

Find the number of books in each genre

Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT Genre,COUNT(Genre) From Books
    -> GROUP BY Genre;
+---------------+---------------+
| Genre         | COUNT(Genre)  |
+---------------+---------------+
| Fiction       |            1  |
| Humor         |            1  |
| Novel         |            1  |
| Poetry        |            2  |
| Romance       |            2  |
| Short Stories |            1  |
| Social        |            1  |
+---------------+---------------+
7 rows in set (0.001 sec)

MariaDB [PES1UG20CS535_Project]>
```

Set Operations

Retrieve the details of only male users who have searched for books..
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT User_ID,FName,LName FROM User as u NATURAL JOIN Searches_For as s
    -> WHERE u.User_ID = s.USER_ID and (u.Gender = 'M')
    -> EXCEPT
    -> SELECT User_ID,FName,LName FROM User as u NATURAL JOIN Searches_For as s
    -> WHERE u.User_ID = s.USER_ID and (u.Gender = 'M' and u.Gender = 'F');
+---------+---------+--------+
| User_ID | FName   | LName  |
+---------+---------+--------+
|      11 | Rishi   | Singh  |
|      13 | Sandeep | Mishra |
|      14 | M S     | Dhoni  |
+---------+---------+--------+
3 rows in set (0.003 sec)

MariaDB [PES1UG20CS535_Project]>
```

Query can be of this Form also
SELECT User_ID,FName,LName FROM User as u NATURAL JOIN Searches_For as s
WHERE (u.Gender = 'M')
EXCEPT
SELECT User_ID,FName,LName FROM User as u NATURAL JOIN Searches_For as s
WHERE (u.Gender = 'M' and u.Gender = 'F');
Output:

Operations

Male Users ▾

The details of only male users who have searched for books ⌃

	User_ID	FName	LName
0	11	Rishi	Singh
1	13	Sandeep	Mishra
2	14	M S	Dhoni

Retrieve the bookid,bookname,availability whose Genre is either Poetry or Romance.
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT Book_ID,Title as BookName,Availabilty as Available_Books FROM Books as b
    -> WHERE b.Genre = 'Poetry'
    -> UNION
    -> SELECT Book_ID,Title as BookName,Availabilty as Available_Books FROM Books as b
    -> WHERE b.Genre = 'Romance';
+---------+-----------------+-----------------+
| Book_ID | BookName        | Available_Books |
+---------+-----------------+-----------------+
|     200 | Gitanjali       |             200 |
|     204 | In Other Words  |              75 |
|     201 | 2 States        |             150 |
|     207 | Half Girlfriend |              70 |
+---------+-----------------+-----------------+
4 rows in set (0.001 sec)

MariaDB [PES1UG20CS535_Project]>
```

Retrieve the FullNames of all users and authors.
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT FName,LName From User
    -> UNION
    -> SELECT firstName as FName,lastName as LName From Author;
+--------------+-----------+
| FName        | LName     |
+--------------+-----------+
| Almas        | Banu      |
| Rishi        | Singh     |
| Deepika      | Padukone  |
| Sandeep      | Mishra    |
| M S          | Dhoni     |
| Rani         | Mukherji  |
| Raj          | Malhotra  |
| Mani         | Teja      |
| Rabindranath | Tagore    |
| Jhumpa       | Lahiri    |
| Krishnaswami | Narayan   |
| Chetan       | Bhagat    |
| Sudha        | Murthy    |
| Amrita       | Pritam    |
+--------------+-----------+
14 rows in set (0.001 sec)

MariaDB [PES1UG20CS535_Project]>
```

Retrieve the book Name which is either written by male author or price of book < 200
Query:

```
MariaDB [PES1UG20CS535_Project]> SELECT DISTINCT Title FROM Author as a NATURAL JOIN Books as b
    -> WHERE a.A_ID = b.A_ID and (a.Gender = 'M' OR  b.Price < 200);
+-----------------------+
| Title                 |
+-----------------------+
| Gitanjali             |
| 2 States              |
| The Guide             |
| The Home and the World|
| Half Girlfriend       |
| Pinjar                |
+-----------------------+
6 rows in set (0.001 sec)

MariaDB [PES1UG20CS535_Project]>
```

Procedure

Write a procedure to Calculate the Age (Derivate Attribute) values using given DOB.

```
MariaDB [PES1UG20CS535_Project]> DELIMITER $$
MariaDB [PES1UG20CS535_Project]> CREATE Procedure Calculate_Age()
    -> BEGIN
    ->     DECLARE TodayDate DATE;
    ->     SELECT CURRENT_DATE() INTO TodayDate;
    ->     UPDATE User
    ->     SET age= YEAR(TodayDate) -year(DOB);
    -> END$$
Query OK, 0 rows affected (0.035 sec)

MariaDB [PES1UG20CS535_Project]> DELIMITER ;
MariaDB [PES1UG20CS535_Project]>
```

Output:

Online BookStore Management App

Updating the Age column in User Table using a stored procedure ⌃

	User ID	FName	LName	DOB	Age	Gender	Address	Email_ID
0	10	Almas	Banu	2002-08-04	20	F	Bengaluru	almas.banu082002@gma
1	11	Rishi	Singh	1998-09-04	24	M	Jaipur	rishisingh@gmail.com
2	12	Deepika	Padukone	1989-10-10	33	F	Mumbai	deepika123@gmail.com
3	13	Sandeep	Mishra	1979-11-08	43	M	Washington DC	sandeep@gmail.com
4	14	M S	Dhoni	1985-08-06	37	M	Ranchi	dhonicool@gmail.com
5	15	Rani	Mukherji	1995-09-10	27	F	Mumbai	ranimukherji@gmail.com
6	16	Raj	Malhotra	1996-02-08	26	M	New Delhi	rajmalhotra@gmail.com
7	17	Mani	Teja	1998-03-12	24	F	Chennai	maniteja@gmail.com

View

Retrieve the user who bought maximum number of books.Also the display the details of books bought by user

```
MariaDB [PES1UG20CS535_Project]> CREATE VIEW User_Max_Books
    -> AS SELECT User.User_ID,FName,LName,DOB,Gender,Address,Email_ID,Book_ID,Order_ID,SUM(No_Of_Books)
    -> AS Number_of_books_bought
    -> FROM User NATURAL JOIN Buys_Places
    -> GROUP BY User_ID;
Query OK, 0 rows affected (0.020 sec)

MariaDB [PES1UG20CS535_Project]>
```

View has been created

☐ **user_max_books** ⭐   🔲 Browse   📊 Structure   🔍 Search   ➡️ Insert   ✏️ Edit   ⊖ Drop   ~0   ❓ View   ---

Output

	User_ID	FName	LName	DOB	Gender	Address	Email_ID	Book_ID	Order_ID	Number_of_books_bought
0	11	Rishi	Singh	1998-09-04	M	Jaipur	rishisingh@gmail.com	200	301	13

Trigger

Create a trigger to reduce the availability of books by number of books taken when a user is buying the book.

```
MariaDB [PES1UG20CS535_Project]> DELIMITER $$
MariaDB [PES1UG20CS535_Project]> CREATE TRIGGER Book_reduce_availability
    -> AFTER INSERT
    -> ON Buys_Places FOR EACH ROW
    -> BEGIN
    -> DECLARE num INT;
    -> SET num = (SELECT No_Of_Books FROM Buys_Places WHERE Order_ID = new.Order_ID);
    -> UPDATE Books SET Availabilty = Availabilty - num WHERE Book_ID = new.Book_ID;
    -> END; $$
Query OK, 0 rows affected (0.019 sec)

MariaDB [PES1UG20CS535_Project]> DELIMITER ;
MariaDB [PES1UG20CS535_Project]>
```

Output:

Online BookStore Management App

Current Buys_Places Data

	User_ID	Book_ID	Order_ID	No_Of_Books
0	10	201	300	3
1	11	200	301	6
2	14	202	302	9
3	12	204	303	8
4	11	203	304	7
5	13	202	305	4

Books Data

	BookID	Title	Price	Genre	Publisher	Published_Date	A_ID	Availability
0	200	Gitanjali	200	Poetry	Simon Schuster	1910-08-14	100	200
1	201	2 States	500	Romance	Rupa Publications	2014-01-01	103	150
2	202	Three Thousand Stiches	300	Fiction	Penguin House	2017-09-16	104	300
3	203	The Guide	250	Humor	RK Publications	1958-11-14	102	100
4	204	In Other Words	700	Poetry	Lehri Publications	1985-08-05	101	75
5	205	The Home and the World	500	Novel	Anthem Press	1916-09-10	100	80
6	206	Unaccustomed Earth	600	Short Stories	Random House	2008-04-04	101	50
7	207	Half Girlfriend	195	Romance	Rupa & Co	2014-08-01	103	70
8	208	Pinjar	175	Social	Tara Publications	1950-06-21	105	85

When a User Buys a Book the Availability in Books has to be reduced by number user has ordered.

User ID :

10

Book_ID :

201

Order_ID :

306

No Of Books :

2

Add Buys_Places

Successfully Added Buys_Places : 10

	User_ID	Book_ID	Order_ID	No_Of_Books
0	10	201	300	3
1	11	200	301	6
2	14	202	302	9
3	12	204	303	8
4	11	203	304	7
5	13	202	305	4
6	10	201	306	2

For Book_ID 201 the Availability has to change (150-2=148)

	BookID	Title	Price	Genre	Publisher	Published_Date	A_ID	Availability
0	200	Gitanjali	200	Poetry	Simon Schuster	1910-08-14	100	200
1	201	2 States	500	Romance	Rupa Publications	2014-01-01	103	148
2	202	Three Thousand Stiches	300	Fiction	Penguin House	2017-09-16	104	300
3	203	The Guide	250	Humor	RK Publications	1958-11-14	102	100
4	204	In Other Words	700	Poetry	Lehri Publications	1985-08-05	101	75
5	205	The Home and the World	500	Novel	Anthem Press	1916-09-10	100	80
6	206	Unaccustomed Earth	600	Short Stories	Random House	2008-04-04	101	50
7	207	Half Girlfriend	195	Romance	Rupa & Co	2014-08-01	103	70
8	208	Pinjar	175	Social	Tara Publications	1950-06-21	105	85

Enter MySQL Query:

```
SELECT Title,Availabilty From Books Where  Book_ID = 201;
```

```
▼ [
    ▼ 0 : [
        0 : "2 States"
        1 : 148
    ]
]
```

Developing a Frontend

Insert User into User Table

SELECT * FROM `user`

User_ID	FName	LName	DOB	Age	Gender	Address	Email_ID
10	Almas	Banu	2002-08-04	20	F	Bengaluru	almas.banu082002@gmail.com
11	Rishi	Singh	1998-09-04	24	M	Jaipur	rishisingh@gmail.com
12	Deepika	Padukone	1989-10-10	33	F	Mumbai	deepika123@gmail.com
13	Sandeep	Mishra	1979-11-08	43	M	Washington DC	sandeep@gmail.com
14	M S	Dhoni	1985-08-06	37	M	Ranchi	dhonicool@gmail.com
15	Rani	Mukherji	1995-09-10	27	F	Mumbai	ranimukherji@gmail.com
16	Raj	Malhotra	1996-02-08	26	M	New Delhi	rajmalhotra@gmail.com
17	Mani	Teja	1998-03-12	24	F	Chennai	maniteja@gmail.com
18	Aishwarya	ParthaSarathi	2002-09-29	20	F	Bengaluru	aishwarya@gmail.com

Update Lname of User Rishi

Users to Edit

11 ▼

User_ID:

11

Age

24

FName:

Rishi

Gender

M

LName:

Sharma

Address :

Jaipur

DOB

1998/09/04

Email_ID :

rishisingh@gmail.com

Update User

Successfully updated details of 11

	User_ID	FName	LName	DOB	Age	Gend	Address	Email_ID
0	10	Almas	Banu	2002-08-04	20	F	Bengaluru	almas.banu082002@gmail.com
1	11	Rishi	Sharma	1998-09-04	24	M	Jaipur	rishisingh@gmail.com
2	12	Deepika	Padukone	1989-10-10	33	F	Mumbai	deepika123@gmail.com
3	13	Sandeep	Mishra	1979-11-08	43	M	Washington DC	sandeep@gmail.com
4	14	M S	Dhoni	1985-08-06	37	M	Ranchi	dhonicool@gmail.com
5	15	Rani	Mukherji	1995-09-10	27	F	Mumbai	ranimukherji@gmail.com
6	16	Raj	Malhotra	1996-02-08	26	M	New Delhi	rajmalhotra@gmail.com
7	17	Mani	Teja	1998-03-12	24	F	Chennai	maniteja@gmail.com
8	18	Aishwarya	ParthaSarathi	2002-09-29	20	F	Bengaluru	aishwarya@gmail.com

DELETE From Payment Table

Menu

Payment ▾

View all Payment ︿

	PID	Amount	BankName	Card_No	Order_ID
0	400	<NA>	Union Bank of India	98764563	300
1	401	<NA>	ICICI Bank	77885231	302
2	402	<NA>	State Bank of India	62354789	301
3	403	<NA>	HDFC Bank	87456123	303
4	404	<NA>	Canara Bank	78945231	304
5	405	<NA>	Kotak Bank	90867522	306

Payment Detail to be deleted

405

Do you want to delete 405?

Delete Payment

Payment has been deleted successfully

Updated data

	PID	Amount	BankName	Card_No	Order_ID
0	400	<NA>	Union Bank of India	98764563	300
1	401	<NA>	ICICI Bank	77885231	302
2	402	<NA>	State Bank of India	62354789	301
3	403	<NA>	HDFC Bank	87456123	303
4	404	<NA>	Canara Bank	78945231	304

Window to take any sql queries

Enter MySQL Query:

```
SELECT * From  Phone_Number;
```

```
[
  0 : [
    0 : 10
    1 : "9008104357"
  ]
  1 : [
    0 : 11
    1 : "8722858717"
  ]
  2 : [
    0 : 12
    1 : "7986543219"
  ]
  3 : [
    0 : 11
    1 : "9972513467"
  ]
```

```
  4 : [
    0 : 13
    1 : "8954781028"
  ]
  5 : [
    0 : 14
    1 : "9875443127"
  ]
  6 : [
    0 : 12
    1 : "9086351723"
  ]
  7 : [
    0 : 13
    1 : "8739180193"
  ]
]
```

Enter MySQL Query:

```
SELECT * From  Author Where A_ID = 104;
```

```
▼ [
    ▼ 0 : [
        0 : 104
        1 : "Sudha"
        2 : "Murthy"
        3 : "sudamurthy@gmail.com"
        4 : "F"
        5 : "India"
      ]
  ]
```