CONTENTS

PART 1: PROPOSAL OF DATABASE SYSTEM

PROJECT TITLE: ONLINE BOOKSTORE AND READING COMPETITION

1. CONTENT OF REPORT PROJECT BACKGROUND:

In recent years, due to the outbreak of the epidemic, the government has implemented a movement control order to better control the epidemic. People need to keep a certain distance and cannot gather. One of the biggest impacts is that physical stores can no longer be fully open to the public, and people can no longer buy goods as they like in physical stores. This has turned everyone's life upside down, and many businesses are at risk of closing because they cannot operate.

The saddest thing for students is that they can no longer go to bookstores to read and buy their favourite books. This will make them lose a lot of fun and knowledge, and it also makes many book lovers feel unbearable. In order to maintain the country's economic development, the government strongly recommends businesses sell their products online. In order to make a living and continue to sell books, many bookstores have registered and opened online bookstores.

The online bookstore not only allows students to freely buy and watch their favourite books during the epidemic but also allows students to shop around without leaving home and can buy the most favourite books at the most favourable price, which is very time-saving and saves effort. In addition, for the sake of environmental protection, merchants will sell e-books, and buyers do not have to worry about how to place the books, which greatly saves space. Moreover, selling physical books and e-books online can also allow foreigners to read Malaysian books, and we can read foreign masterpieces without flying. Online bookstores allow reading lovers to read a wider range of books, saving readers time and energy, and not having to spend time going to physical bookstores to buy books.

Due to the huge management volume of the online bookstore, an online bookstore management system has been created to better manage the bookstore. The online bookstore management system records in detail the code, address, phone number, and other important information about the online bookstore, this allows the customers to know how to get further information from the bookstore. In addition, the online bookstore management system also records important information about customers, books, and warehouses in detail. In the online bookstore, every book has a title, ISBN, year, and price. The store also keeps the author and publisher for any book. Each book can only have one author and one publisher, but an author may write many books and a publisher may publish many books. For authors, the database keeps the ID, name, and address. For publishers, the database keeps the ID, name, address, and phone numbers. Each online bookstore has several warehouses, each of which has a code, address, and phone number. The warehouse stocks several books. A book may be stocked at multiple warehouses. The database records the number of copies of a book stocked at various warehouses. If you buy books from an online bookstore in a different place, customers don't need to worry about whether the books will be delivered to your door, because the customer's email, name, phone number, address, and other

information will be recorded in the system, which will be more convenient for merchants to deliver goods and successfully contact customers. A customer can own several shopping baskets. A shopping basket is identified by a shoppingbasketID and contains several books. Some shopping baskets may contain more than one copy of the same book. The database records the number of copies of each book in any shopping basket. Once customers add the book to their shopping basket, the staff of the online bookstore will be notified, and the system will recommend the customers some books related to the shopping basket book.

In order to encourage students to read more during the epidemic and to allow students to participate in activities and enjoy themselves physically and mentally during the epidemic, the online bookstores also jointly organized an online reading competition. The competition allows both domestic and foreign competitors to participate. A competition may be primary level, secondary level, or university level. Participants' information, such as id, address, email address, phone number and name will be entered into a reading competition system so that when they win the competition the related prize can be delivered to their address successfully. Each participant is allowed to involve in many competitions, the id, date, and type of the competition will be recorded in the system so that the participants will know the detail about the competition. After finishing the competition, the participant will obtain their own score for the competition, the id and the total of the score will be recorded at that time in order to determine the winner of the competition and send the prize to the winner. The id and the name of the prize will be recorded also in this system in order to claim the prize of the prize to the sponsors. Each score id can only contribute to only one prize for a winner. In order to smooth the flow of the competition, the staff of each online bookstore will be responsible to manage several participants and each participant is allowed to ask for help from several staff members, the id, name, phone number and email of the staff will be stored in the system.

In conclusion, the online bookstore and reading competition management system will help the owners of the online bookstores and customers to allow customers and merchants to successfully conduct buying and selling transactions. The system can easily collect information from users and make a report. From the report, the system will produce a statistical report about the previous buying record and selling record and the system will automatically recommend to customers the related products based on the previous things bought to give customers a better shopping experience and let the merchant know and understand market trends. Hence, merchants can avoid unnecessary purchases to reduce losses and increase profits based on the report analysed.

OBJECTIVE:

1. To manage the information of online bookstores and reading competitions in order.
2. To allow customers and merchants to successfully conduct buying and selling transactions in order.
3. To update the information of online bookstores and reading competitions easily from time to time.
4. To manage the procedures associated with the reading competition.
5. To store information regarding online bookstores and reading competitions.
6. To generate a report based on past buying records and selling records so that the merchants know and understand the market trend.
7. To reduce costs, save time and space, and bring convenience to everyone.

SCOPES:

The online bookstore and reading competition system's scope:

The online bookstores and reading competition management system can be used only for the management of online bookstores, customers, books, warehouses, prizes of the reading competition, participants, and staff for the reading competition because it provides relevant information for this specific scope only. The scope includes the online bookstores' customers' personal details, participants' personal details, books details and warehouses details.

1. The system will store all the data and information about the online bookstore and reading competition.
2. The system will store how many books are still available in the online bookstore, including the overall amount of warehouse books, the type of book, and others.
3. The system will also store the process of reading competition.
4. The system will record the information for the customers and participants such as names, phone numbers, and others.
5. The system will record the information of the book and the staff involved.

The user's scope:

1. Customer
   - Can buy books from the online bookstore
   - Can add the book that wish to buy into their shopping basket

2. participant
   - Can take part in the competition organised by the online bookstore
   - Can obtain the score for each competition
   - Can receive prizes from the organizers if they win the competition
   - Can ask for help from the staff if got any problem about the competition

3. Author
   - Can write books

4. Staff
   - Can manage and record the information of the prize
   - Can update the information about the competition
   - Can record and update the score of the participants for each competition
   - Can give help to the participants that facing problems with the competition
   - Can contact the owner of the online bookstore easily

5. Publisher
   - Can publish books written by the authors and sell them to the owners of the online bookstores

2. COMPARISON BETWEEN MANUAL PROCESS, DATABASE SYSTEM 1 AND DATABASE SYSTEM 2

	Manual Process	Database System 1	Database System 2
Process/ Entities	1. At the beginning, the user input user_id, password, and user type for whether he/she is a customer or an admin. 2. In the customer flow, the customer can choose the decision that he/ she would like to buy the book, or else the customer will go to the next decision that is he/she wants to participate the reading competition. 3. If customer choose the buy the book, the customer will input book_name for searching a book, then click in to view the book details, then input the amount of the book before adding it to the shopping basket. 4. After that, the customer will do the decision that he/she wants to shop continuously or not. If yes, he/she will return to the process of inputing book_name, else the customer will make the payment completely. 5. Next, the customer can choose and decide whether he/she wants to join the reading competition. If yes, he/she will input participant_id, participant_name, participant_phoneNum, participant_email, and competition_name, else the customer will log out and end the progresss. 6. For the admin process, the admin can choose that he/she wants to add a new book. If yes, the admin will insert book_ISBN, book_name, author, publisher, book_year, book_title and book_price data into the database, else, he/she will go to the next step. 7. Next, the admin can choose that he/she wants to modify the book. If yes, he/she would input book_ISBN or book_name to modify the book, else, he/she will go to the next step. 8. Furthermore, the admin can decide for deleting the book. If yes, he/she can input book_ISBN or book_name that he/she wishes to delete, else, he/she will go to the next step.	• Book • Comment • Order • Customer • Inventory • Employee • Competition • Participant	• Book • Book_language • Order_line • Cust_order • Customer • BookStore • Staff • Competition • Score • Participant

	9. Besides, the admin can decide that he/she want to organize a reading competition. If yes, he/she would input competition_id, competition_name and competition date. Then, it will be sorted, and the admin will continue to input the prize_id and prize_name, else the admin will log out the system and end the progress. 10. Moreover, the admin will get to know the participant who will win the competition, if yes, the admin will also want to know the participant is either a Malaysian or a foreigner. If yes, the prize delivery fee is free, else the participant would pay RM 10 for prize delivery. 11. Lastly, the admin will logout and leave the system progress.		
Attributes		**Book** Book_ISBN (PK) Book_Year Title Price **Comment** Order_ID (PK, FK) Book_ISBN (PK, FK) Text Rating **Order** Order_ID (PK) Customer_ID (PK, FK) Shipping_Type Total_Fee **Customer** Customer_ID (PK) Customer_Name Customer_Phone Customer_Address **Inventory** Book_ISBN (PK, FK) Inventory_Quantity Employee_ID (FK) **Employee** Employee_ID (PK) Department Salary	**Book** book_ISBN (PK) book_title language_id (FK) num_pages bookStore_id (FK) **Book_language** language_id (PK) language_code language_name **Order_line** book_ISBN (PK, FK) order_id (PK, FK) line_id (PK) price **Cust_order** order_id (PK) order_date customer_id (FK) **Customer** customer_id (PK) customer_name customer_phone customer_email **BookStore** bookStore_id (PK)

		Competition_ID (FK) **Competition** Competition_ID (PK) Competition_Type Competition_Date **Participant** Participant_ID (PK) Participant_Name Participant_Mobile Participant_Address Participant_Email Participant_Type Competition_ID (FK)	bookstore_address bookstore_phone **Staff** staff_id (PK) staff_name staff_phone staff_email bookStore_id (FK) competition_id (FK) **Competition** competition_id (PK) competition_type competition_date **Prize** prize_id (PK) score_id (PK, FK) participant_id (PK, FK) staff_id (FK) prize_name **Score** competition_id (PK, FK) participant_id (PK, FK) score_id (PK) score_total **Participant** participant_id (PK) participant_name participant_phone participant_email
Primary Key	-	Book_ISBN Order_ID Customer_ID Employee_ID Competition_ID Participant_ID	book_ISBN language_id line_id order_id customer_id bookStore_id staff_id competition_id score_id participant_id
Other Features	-	-	-
Diagrams	Flowchart (Figure 1)	ERD/ EERD (Figure 2)	ERD/ EERD (Figure 3)
References	-		-

Flowchart (Figure 1)

ERD/ EERD (Figure 2)

ERD/ EERD (Figure 3)

3. BUSINESS RULE

Entity	Entity	Relationship	Business Rules
Publisher	Book	1:M	• Each book can be published by only one publisher. • A publisher may publish zero or many books.
Author	Book	1:M	• Each book can have only one author. • An author may write zero or many books.
Book	Shopping Basket_ Book	1:M	• Each book can have zero or many copies of shopping basket books • A shopping basket book can only be a copy of one book.
Book	Warehouse _ Book	1:M	• A book can have zero or more warehouse book copies • A warehouse book can only be a copy of one book.
Shopping Basket	Shopping Basket_ Book	1:M	• Each shopping basket can add zero to many shopping basket books. • A shopping basket book can be added by only one shopping basket.
Customer	Shopping Basket	1:M	• Each customer may have zero or many shopping baskets. • A shopping basket is used by only one customer.
Warehouse	Warehouse _ Book	1:M	• Each warehouse can store zero or many warehouse books. • A warehouse book can only be stored in one warehouse.
Online Bookstore	Warehouse	1:M	• Each online bookstore can have one or many warehouses. • A warehouse can be owned by one online bookstore only.
Online Bookstore	Staff	1:M	• Each online bookstore can employ one or many staff. • A staff member can only work for one bookstore。
Staff	Prize	1:M	• Each staff member can manage zero or many prizes. • A prize can be managed by only one staff
Score	Prize	1:1	• Each score can follow only one prize. • A prize will follow by only one score.
Prize	Participant	1:M	• Each participant can win zero or many prizes. • A prize can only be given to one participant.
Participant	Score	1:M	• Each participant can get one or many scores. • A score gets by only one participant.
Competition	Score	1:M	• Each competition can have one or many scores. • A score has only one competition.

4. ENTITY RELATIONSHIP DIAGRAM (ERD) AND ENHANCED ENTITY RELATIONSHIP DIAGRAM (EERD)

ERD

EERD

Publisher

PK	Publisher_ID	varchar(100)	N
	Publisher_Name	varchar(100)	N
	Publisher_Address	varchar(100)	N
	Publisher_Phone	varchar(100)	

publish

Customer

PK	Customer_Email	varchar(100)	N
	Customer_Name	varchar(100)	
	Customer_Phone	varchar(100)	N
	Customer_Address	varchar(100)	N

add order into

Author

write

PK	Author_ID	varchar(100)	N
	Author_Name	varchar(100)	N
	Author_Address	varchar(100)	

Book

PK	Book_ISBN	varchar(100)	N
FK	Author_ID	varchar(100)	N
FK	Publisher_ID	varchar(100)	N
	Book_Year	int	
	Title	varchar(100)	N
	Price	numeric (19,2)	

contains

ShoppingBasket_Book

PK,FK	ShoppingBasket_ID	int	N
PK,FK	Book_ISBN	varchar(100)	N
	CountSBB	int	

be added

ShoppingBasket

PK	ShoppingBasket_ID	int	N
FK	Customer_Email	varchar(100)	N
	Shopping_Date	date	

copy of

Warehouse_Book

PK, FK	Warehouse_Code	int	N
PK, FK	Book_ISBN	varchar(100)	N
	CountWB	int	

stocks

Warehouse

PK	Warehouse_Code	int	N
FK	Bookstore_Code	varchar(100)	
	Warehouse_Phone	varchar(100)	
	Warehouse_Address	varchar(100)	

has

OnlineBookstore

PK	Bookstore_Code	varchar(100)	N
	Bookstore_Address	varchar(100)	
	Bookstore_Phone	varchar(100)	N

consists of

Prize

PK	Prize_ID	varchar(100)	N
FK	Participant_ID	varchar(100)	N
FK	Staff_ID	varchar(100)	N
	Prize_Name	varchar(100)	N

gets

manages

Staff

PK	Staff_ID	varchar(100)	N
FK	Bookstore_Code	varchar(100)	
	Staff_Name	varchar(100)	N
	Staff_Mobile	varchar(100)	N
	Staff_Email	varchar(100)	

follow

Participant

PK	Participant_ID	varchar(100)	N
	Participant_Name	varchar(100)	
	Participant_Mobile	varchar(100)	N
	Participant_Address	varchar(100)	N
	Participant_Email	varchar(100)	
	Participant_Type	varchar(100)	

wins

Score

PK	Score_ID	varchar(100)	N
FK	Participant_ID	varchar(100)	N
FK	Competition_ID	varchar(100)	N
FK	Prize_ID	varchar(100)	N
	Score_Total	int	N

has

Competition

PK	Competition_ID	varchar(100)	N
	Competition_Type	varchar(100)	
	Competition_Date	date	N

d Participant_Type

"F"   "M"

Foreigner

PK, FK	Particant_ID	varchar(100)	N
	Delivery_Distance	int	
	Delivery_Method	varchar(100)	

Malaysian

PK, FK	Particant_ID	varchar(100)	N
	Delivery_Type	varchar(100)	

PART 2: SQL & NORMALIZATION

Relational modal for ERD

Author (Author_ID, Author_Name, Author_Address)
Publisher(Publisher_ID, Publisher_Name, Publisher_Address, Publisher_Phone)
Book(Book_ISBN, Book_Year, Title, Price, Author_ID,Publisher_ID)
ShoppingBasket_Book(ShoppingBasket_ID, Book_ISBN, CountSBB)
ShoppingBasket(ShoppingBasket_ID, Customer_Email, Shopping_Date)
Customer(Customer_Email, Customer_Name, Customer_Phone, Customer_Address)
Warehouse_Book(Warehouse_Code, Book_ISBN, CountWBB)
Warehouse(Warehouse_Code, Bookstore_Code, Warehouse_Phone, Warehouse_Address)
OnlineBookstore(Bookstore_Code, Bookstore_Address, Bookstore_Phone)
Staff (Staff_ID, Bookstore_Code, Staff_Name, Staff_Mobie, Staff_Email)
Prize(Prize_ID, Participant_ID, Staff_ID, Prize_Name)
Score(Score_ID, Participant_ ID, Competition_ID, Prize_ID, Score_Total)
Participant(Participant_ID, Participant_Name, Participant_Mobile, Participant_Add ress, Participant_Email, Participant_Type)
Competition(Competition_ID, Competition_Type, Competition_Date)

5. SQL USING DATA DEFINITION LANGUAGE (DDL)

CREATE DATABASE

CREATE DATABASE bookstore;

```
mysql> CREATE DATABASE bookstore;
Query OK, 1 row affected (0.00 sec)
```

USE DATABASE

USE bookstore;

```
mysql> USE bookstore;
Database changed
```

CREATE TABLE Publisher

CREATE TABLE Publisher(
    Publisher_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    Publisher_Name VARCHAR(100) NOT NULL, Publisher_Address VARCHAR(100) NOT NULL,
    Publisher_Phone VARCHAR(100)
);

```
mysql> CREATE TABLE Publisher(
    -> Publisher_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Publisher_Name VARCHAR(100) NOT NULL,
    -> Publisher_Address VARCHAR(100) NOT NULL,
    -> Publisher_Phone VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Author

CREATE TABLE Author(
    Author_ID VARCHAR(100) NOT NULL PRIMARY KEY, Author_Name VARCHAR(100) NOT
    NULL,
    Author_Address VARCHAR(100)
);

```
mysql> CREATE TABLE Author(
    -> Author_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Author_Name VARCHAR(100) NOT NULL,
    -> Author_Address VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Book

CREATE TABLE Book(
    Book_ISBN VARCHAR(100) NOT NULL PRIMARY KEY, Author_ID VARCHAR(100) NOT NULL,
    FOREIGN KEY(Author_ID) REFERENCES Author(Author_ID), Publisher_ID VARCHAR(100) NOT
    NULL,
    FOREIGN KEY(Publisher_ID) REFERENCES Publisher(Publisher_ID), Book_Year INT,
    Title VARCHAR(100) NOT NULL, Price NUMERIC(19,2) NOT NULL,

);

```
mysql> CREATE TABLE Book(
    -> Book_ISBN VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Author_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Author_ID) REFERENCES Author(Author_ID),
    -> Publisher_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Publisher_ID) REFERENCES Publisher(Publisher_ID),
    -> Book_Year INT,
    -> Title VARCHAR(100) NOT NULL,
    -> Price NUMERIC(19,2) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Customer

CREATE TABLE Customer(
    Customer_Email VARCHAR(100) NOT NULL PRIMARY KEY,
    Customer_Name VARCHAR(100), Customer_Phone VARCHAR(100) NOT NULL, Customer_Address
    VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE Customer(
    -> Customer_Email VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Customer_Name VARCHAR(100),
    -> Customer_Phone VARCHAR(100) NOT NULL,
    -> Customer_Address VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE ShoppingBasket

CREATE TABLE ShoppingBasket(
    ShoppingBasket_ID INT PRIMARY KEY AUTO_INCREMENT, Customer_Email VARCHAR(100),
    FOREIGN KEY(Customer_Email) REFERENCES Customer(Customer_Email), Shopping_Date DATE
);

```
mysql> CREATE TABLE ShoppingBasket(
    -> ShoppingBasket_ID INT PRIMARY KEY AUTO_INCREMENT,
    -> Customer_Email VARCHAR(100),
    -> FOREIGN KEY(Customer_Email) REFERENCES Customer(Customer_Email),
    -> Shopping_Date DATE
    -> );
Query OK, 0 rows affected (0.02 sec)
```

CREATE TABLE ShoppingBasket_Book

CREATE TABLE ShoppingBasket_Book(ShoppingBasket_ID INT NOT NULL,
    FOREIGN KEY(ShoppingBasket_ID) REFERENCES ShoppingBasket(ShoppingBasket_ID), Book_ISBN
    VARCHAR(100) NOT NULL,
    FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
    PRIMARY KEY(ShoppingBasket_ID,Book_ISBN), CountSBB INT
);

```
mysql> CREATE TABLE ShoppingBasket_Book(
    -> ShoppingBasket_ID INT NOT NULL,
    -> FOREIGN KEY(ShoppingBasket_ID) REFERENCES ShoppingBasket(ShoppingBasket_ID),
    -> Book_ISBN VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
    -> PRIMARY KEY(ShoppingBasket_ID,Book_ISBN),
    -> CountSBB INT
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE OnlineBookstore

CREATE TABLE OnlineBookstore(
    Bookstore_Code VARCHAR(100) NOT NULL PRIMARY KEY,
    Bookstore_Address VARCHAR(100), Bookstore_Phone VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE OnlineBookstore(
    -> Bookstore_Code VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Bookstore_Address VARCHAR(100),
    -> Bookstore_Phone VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Warehouse

CREATE TABLE Warehouse(
    Warehouse_Code INT NOT NULL PRIMARY KEY, Bookstore_Code VARCHAR(100),
    FOREIGN KEY(Bookstore_Code) REFERENCES OnlineBookstore(Bookstore_Code),
    Warehouse_Phone VARCHAR(100),
    Warehouse_Address VARCHAR(100)
);

```
mysql> CREATE TABLE Warehouse(
    -> Warehouse_Code INT NOT NULL PRIMARY KEY,
    -> Bookstore_Code VARCHAR(100),
    -> FOREIGN KEY(Bookstore_Code) REFERENCES OnlineBookstore(Bookstore_Code),
    -> Warehouse_Phone VARCHAR(100),
    -> Warehouse_Address VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Warehouse_Book

CREATE TABLE Warehouse_Book(Warehouse_Code INT NOT NULL,
    FOREIGN KEY(Warehouse_Code) REFERENCES Warehouse(Warehouse_Code), Book_ISBN
    VARCHAR(100) NOT NULL,
    FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
    PRIMARY KEY(Warehouse_Code,Book_ISBN), CountWB INT
);

```
mysql> CREATE TABLE Warehouse_Book(
    -> Warehouse_Code INT NOT NULL,
    -> FOREIGN KEY(Warehouse_Code) REFERENCES Warehouse(Warehouse_Code),
    -> Book_ISBN VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Book_ISBN) REFERENCES Book(Book_ISBN),
    -> PRIMARY KEY(Warehouse_Code,Book_ISBN),
    -> CountWB INT
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Staff

CREATE TABLE Staff(
    Staff_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    Bookstore_Code VARCHAR(100),
    FOREIGN KEY(Bookstore_Code) REFERENCES OnlineBookstore(Bookstore_Code), Staff_Name
    VARCHAR(100) NOT NULL,
    Staff_Mobile VARCHAR(100) NOT NULL, Staff_Email VARCHAR(100)
);

```
mysql> CREATE TABLE Staff(
    -> Staff_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Bookstore_Code VARCHAR(100),
    -> FOREIGN KEY(Bookstore_Code) REFERENCES OnlineBookstore(Bookstore_Code),
    -> Staff_Name VARCHAR(100) NOT NULL,
    -> Staff_Mobile VARCHAR(100) NOT NULL,
    -> Staff_Email VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Participant

CREATE TABLE Participant(
    Participant_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    Participant_Name VARCHAR(100), Participant_Mobile VARCHAR(100) NOT NULL,
    Participant_Address VARCHAR(100) NOT NULL, Participant_Email VARCHAR(100),
    Participant_Type VARCHAR(100)
);

```
mysql> CREATE TABLE Participant(
    -> Participant_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Participant_Name VARCHAR(100),
    -> Participant_Mobile VARCHAR(100) NOT NULL,
    -> Participant_Address VARCHAR(100) NOT NULL,
    -> Participant_Email VARCHAR(100),
    -> Participant_Type VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Competition

CREATE TABLE Competition(
    Competition_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    Competition_Type VARCHAR(100), Competition_Date DATE NOT NULL
);

```
mysql> CREATE TABLE Competition(
    -> Competition_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Competition_Type VARCHAR(100),
    -> Competition_Date DATE NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Prize

CREATE TABLE Prize(
    Prize_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    Participant_ID VARCHAR(100) NOT NULL,
    FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID), Staff_ID VARCHAR(100)
    NOT NULL,
    FOREIGN KEY(Staff_ID) REFERENCES Staff(Staff_ID), Prize_Name VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE Prize(
    -> Prize_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Participant_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID),
    -> Staff_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Staff_ID) REFERENCES Staff(Staff_ID),
    -> Prize_Name VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

CREATE TABLE Score

CREATE TABLE Score(
    Score_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    Participant_ID VARCHAR(100) NOT NULL,
    FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID), Competition_ID
    VARCHAR(100) NOT NULL,
    FOREIGN KEY(Competition_ID) REFERENCES Competition(Competition_ID), Prize_ID
    VARCHAR(100) NOT NULL,
    FOREIGN KEY(Prize_ID) REFERENCES Prize(Prize_ID), Score_Total VARCHAR(100) NOT NULL
);

```
mysql> CREATE TABLE Score(
    -> Score_ID VARCHAR(100) NOT NULL PRIMARY KEY,
    -> Participant_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Participant_ID) REFERENCES Participant(Participant_ID),
    -> Competition_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Competition_ID) REFERENCES Competition(Competition_ID),
    ->          Prize_ID VARCHAR(100) NOT NULL,
    -> FOREIGN KEY(Prize_ID) REFERENCES Prize(Prize_ID),
    -> Score_Total VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.01 sec)
```

ALTER TABLE

ALTER TABLE Book
RENAME COLUMN Title TO Book_Title;

```
mysql> ALTER TABLE Book
    -> RENAME COLUMN Title TO Book_Title;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Before:

```
mysql> describe book;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| Book_ISBN    | varchar(100) | NO   | PRI | NULL    |       |
| Author_ID    | varchar(100) | NO   | MUL | NULL    |       |
| Publisher_ID | varchar(100) | NO   | MUL | NULL    |       |
| Book_Year    | int          | YES  |     | NULL    |       |
| Title        | varchar(100) | NO   |     | NULL    |       |
| Price        | decimal(19,2)| NO   |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

After:

```
mysql> describe book;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| Book_ISBN    | varchar(100) | NO   | PRI | NULL    |       |
| Author_ID    | varchar(100) | NO   | MUL | NULL    |       |
| Publisher_ID | varchar(100) | NO   | MUL | NULL    |       |
| Book_Year    | int          | YES  |     | NULL    |       |
| Book_Title   | varchar(100) | NO   |     | NULL    |       |
| Price        | decimal(19,2)| NO   |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

ALTER TABLE Score
MODIFY Score_Total INT NOT NULL;

```
mysql> ALTER TABLE Score
    -> MODIFY Score_Total INT NOT NULL;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Before:

```
mysql> describe Score;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| Score_ID       | varchar(100) | NO   | PRI | NULL    |       |
| Participant_ID | varchar(100) | NO   | MUL | NULL    |       |
| Competition_ID | varchar(100) | NO   | MUL | NULL    |       |
| Prize_ID       | varchar(100) | NO   | MUL | NULL    |       |
| Score_Total    | varchar(100) | NO   |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

After:

```
mysql> describe Score;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| Score_ID       | varchar(100) | NO   | PRI | NULL    |       |
| Participant_ID | varchar(100) | NO   | MUL | NULL    |       |
| Competition_ID | varchar(100) | NO   | MUL | NULL    |       |
| Prize_ID       | varchar(100) | NO   | MUL | NULL    |       |
| Score_Total    | int          | NO   |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

DROP TABLE

DROP DATABASE bookstore;

```
mysql> DROP DATABASE bookstore;
Query OK, 14 rows affected (0.04 sec)
```

6. SQL USING DATA MANIPULATION LANGUAGE (DML)

INSERT

INSERT Author

INSERT INTO Author (Author_ID, Author_Name, Author_Address) VALUES
('A001','Yew Kwang Hui','No. 567, Jalan Putera, 46200 Petaling Jaya, Selangor'), ('A002','Samsudin Abdullah bin Fakri','Lot 4892, Taman Desa, 80250 Johor Bharu, Johor'), ('A003','Chetan A/L Bangla','No. 567, Jalan Raja Chulan, 50000 Kuala Lumpur, Kuala Lumpur'), ('A004','Grace Wong Jie Hui','123-2A, Jalan Enstek 3/8, 71800 Nilai, Negeri Sembilan'), ('A005','Siti Khadijah binti Kamal','Pt 2464, Taman Guchil Jaya, 18000 Kuala Krai, Kelantan'), ('A006','Amrita A/P Pritia ','Lot 2953, Jalan Permai, 14020 Bukit Mertajam, Penang'), ('A007','Uthaya A/L Sankar','No. 382, Taman Desa Intan, 11500 Ayer Itam, Pulau Pinang'), ('A008','Lim Kit Ching','Pt. 3295, Jalan Maarof 2/3, 85000, Segamat, Johor'), ('A009','Sarah Rosmah binti Abdullah','Lot. 253-7A, Jalan Desa Mawar, 11500 Ayer Itam, Pulau Pinang'), ('A010','Ali Abdulah bin Ahmad','No. 46, Jalan Puteri, 10150 George Town, Pulau Pinang');

```
mysql> INSERT INTO Author (Author_ID, Author_Name, Author_Address)
    -> VALUES
    -> ('A001','Yew Kwang Hui','No. 567, Jalan Putera, 46200 Petaling Jaya, Selangor'),
    -> ('A002','Samsudin Abdullah bin Fakri','Lot 4892, Taman Desa, 80250 Johor Bharu, Johor'),
    -> ('A003','Chetan A/L Bangla','No. 567, Jalan Raja Chulan, 50000 Kuala Lumpur, Kuala Lumpur'),
    -> ('A004','Grace Wong Jie Hui','123-2A, Jalan Enstek 3/8, 71800 Nilai, Negeri Sembilan'),
    -> ('A005','Siti Khadijah binti Kamal','Pt 2464, Taman Guchil Jaya, 18000 Kuala Krai, Kelantan'),
    -> ('A006','Amrita A/P Pritia ','Lot 2953, Jalan Permai, 14020 Bukit Mertajam, Penang'),
    -> ('A007','Uthaya A/L Sankar','No. 382, Taman Desa Intan, 11500 Ayer Itam, Pulau Pinang'),
    -> ('A008','Lim Kit Ching','Pt. 3295, Jalan Maarof 2/3, 85000, Segamat, Johor'),
    -> ('A009','Sarah Rosmah binti Abdullah','Lot. 253-7A, Jalan Desa Mawar, 11500 Ayer Itam, Pulau Pinang'),
    -> ('A010','Ali Abdulah bin Ahmad','No. 46, Jalan Puteri, 10150 George Town, Pulau Pinang');
Query OK, 10 rows affected (0.00 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

INSERT Publisher

INSERT INTO Publisher (Publisher_ID, Publisher_Name, Publisher_Address, Publisher_Phone) VALUES
('P0001','Oxferd Fajar Sdn Bhd','999, Jalan Pemaju, 40150 Shah Alam, Selangor','03-5629400'),
('P0002','GoldFish Book Sdn Bhd','No. 360, Lintang Macallum, 10300 George Town, Pulau Pinang','09-9994424'),
('P0003','Hup Seng Book Sdn Bhd','5529, Jalan Marif 2/5, 59000 Bangsar, Selangor','01-4248892'),
('P0004','Kanying Publication Sdn Bhd','35, Jalan Industri Kidamai,43000 Kajang, Selangor','04-2423949'),
('P0005','Navinden Pubication Sdn Bhd','73, Jalan Maarof, Bangsar, 59000 Kuala Lumpur, Kuala Lumpur','03-2235490'),
('P0006','Rosmah Book Sdn Bhd','No. 35, Block C5, Jalan Parameswara, 47301 Petaling Jaya, Selangor','06-8795292'),
('P0007','Pernebit UM','C4-26, Bukit Bakar Industrial Area, 52100 Kepong, Kuala Lumpur','08-4837897'),
('P0008','Pelangor Pubishing Group','Lot 22, Taman Perindustrian Ayer, 80250, Johor Bharu, Johor','07-0217474'),
('P0009','Sental Press Sdn Bhd','B-4-C, Jalan Kenari 5, Alam Damai, 56000 Cheras, Kuala Lumpur','03-4258393'),
('P0010','Ali Publication Sdn Bhd','58, Jalan Bukit 24/5, Seksyen 51 Petaling Jaya, 46200 Petaling Jaya, Selangor','02-2423490');

```
mysql> INSERT INTO Publisher (Publisher_ID, Publisher_Name, Publisher_Address, Publisher_Phone)
    -> VALUES
    -> ('P0001','Oxferd Fajar Sdn Bhd','999, Jalan Pemaju, 40150 Shah Alam, Selangor','03-5629400'),
    -> ('P0002','GoldFish Book Sdn Bhd','No. 360, Lintang Macallum, 10300 George Town, Pulau Pinang','09-9994424'),
    -> ('P0003','Hup Seng Book Sdn Bhd','5529, Jalan Marif 2/5, 59000 Bangsar, Selangor','01-4248892'),
    -> ('P0004','Kanying Publication Sdn Bhd','35, Jalan Industri Kidamai,43000 Kajang, Selangor','04-2423949'),
    -> ('P0005','Navinden Pubication Sdn Bhd','73, Jalan Maarof, Bangsar, 59000 Kuala Lumpur, Kuala Lumpur','03-2235490'),
    -> ('P0006','Rosmah Book Sdn Bhd','No. 35, Block C5, Jalan Parameswara, 47301 Petaling Jaya, Selangor','06-8795292'),
    -> ('P0007','Pernebit UM','C4-26, Bukit Bakar Industrial Area, 52100 Kepong, Kuala Lumpur','08-4837897'),
    -> ('P0008','Pelangor Pubishing Group','Lot 22, Taman Perindustrian Ayer, 80250 Johor Bharu, Johor','07-0217474'),
    -> ('P0009','Sental Press Sdn Bhd','B-4-C, Jalan Kenari 5, Alam Damai, 56000 Cheras, Kuala Lumpur','03-4258393'),
    -> ('P0010','Ali Publication Sdn Bhd','58, Jalan Bukit 24/5, Seksyen 51 Petaling Jaya, 46200 Petaling Jaya, Selangor','02-2423490');
Query OK, 10 rows affected (0.00 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

INSERT Customer

INSERT INTO Customer (Customer_Email, Customer_Name, Customer_Phone, Customer_Address) VALUES
('armiraaaa47@gmail.com','Nur Armira binti Syed Fairuz','014-1234122','Lot 74, Jalan Universiti, 46200 Petaling Jaya, Selangor'),
('hajiftd8877@gmail.com','Haji Fathuddin bin Idham','011-74219300','No. 92, Jalan Burma, 10797 George Town, Pulau Pinang'),
('slmisthebest32@gmail.com','Siew Loong Mon','019-8717818','61, Jalan Imbi, Imbi, 57070 Kuala Lumpur, Kuala Lumpur'),
('preetaking007@gmail.com','Preeta A/L Selvaraju','018-2457636','58, Jalan Jubli Perak Seksyen, 40172 Shah Alam, Selangor'),
('jessietjh20@gmail.com','Jessie Tan Jing Hui','016-4145675','4, Jalan Industri USJ, Taman Perindustrian Usj 1, 47631 Subang Jaya, Selangor'),
('chendp007@gmail.com','Chen Dong Pin','012-9669098','No. 12 & 14A, Jalan Bentara 1, Taman Iskandar, 80050 Johor Bahru, Johor'),
('syasya71@gmail.com','Syafina binti Fadillah','014-7739172','No. 36, Jalan 4, Laman Keramat, 21055 Bukit Besi, Terengganu'),
('shoba99@gmail.com','Shoba Sundram A/P Pragash Ammasee','017-3217541','No. 067, Jalan 1/12, Taman Jordan, 31900 Kampar, Perak'),
('zmchen11@gmail.com','Chen Zhi Ming','011-38380187','7, Jalan Medan Midah, Taman Midah, 59513 Kuala Lumpur,Kuala Lumpur'),
('nazeem666@gmail.com','Nazeem Akmal bin Nik Zamani','010-8461063','No. 152, Jalan Lembah, Taman Tasek, 80200, Johor Bahru, Johor'),
('loh888@gmail.com','Loh Jing Yi','011-4242421','61 & 61-A, Jalan Harimau Tarum, Taman Century, 80250 Johor Bahru, Johor'),
('jycute73@gmail.com','Wong Jin Ying','016-5991059','35, Jalan Perpaduan, Desa Lawan Kuda, 31600 Gopeng, Perak');

```
mysql> INSERT INTO Customer (Customer_Email, Customer_Name, Customer_Phone, Customer_Address)
    -> VALUES
    -> ('armiraaaa47@gmail.com','Nur Armira binti Syed Fairuz','014-1234122','Lot 74, Jalan Universiti, 46200 Petaling Jaya, Selangor'),
    -> ('hajiftd8877@gmail.com','Haji Fathuddin bin Idham','011-74219300','No. 92, Jalan Burma, 10797 George Town, Pulau Pinang'),
    -> ('slmisthebest32@gmail.com','Siew Loong Mon','019-8717818','61, Jalan Imbi, Imbi, 57070 Kuala Lumpur, Kuala Lumpur'),
    -> ('preetaking007@gmail.com','Preeta A/L Selvaraju','018-2457636','58, Jalan Jubli Perak Seksyen, 40172 Shah Alam, Selangor'),
    -> ('jessietjh20@gmail.com','Jessie Tan Jing Hui','016-4145675','4, Jalan Industri USJ, Taman Perindustrian Usj 1, 47631 Subang Jaya, Selangor'),
    -> ('chendp007@gmail.com','Chen Dong Pin','012-9669098','No. 12 & 14A, Jalan Bentara 1, Taman Iskandar, 80050 Johor Bahru, Johor'),
    -> ('syasya71@gmail.com','Syafina binti Fadillah','014-7739172','No. 36, Jalan 4, Laman Keramat, 21055 Bukit Besi, Terengganu'),
    -> ('shoba99@gmail.com','Shoba Sundram A/P Pragash Ammasee','017-3217541','No. 067, Jalan 1/12, Taman Jordan, 31900 Kampar, Perak'),
    -> ('zmchen11@gmail.com','Chen Zhi Ming','011-38380187','7, Jalan Medan Midah, Taman Midah, 59513 Kuala Lumpur,Kuala Lumpur'),
    -> ('nazeem666@gmail.com','Nazeem Akmal bin Nik Zamani','010-8461063','No. 152, Jalan Lembah, Taman Tasek, 80200, Johor Bahru, Johor'),
    -> ('loh888@gmail.com','Loh Jing Yi','011-4242421','61 & 61-A, Jalan Harimau Tarum, Taman Century, 80250 Johor Bahru, Johor'),
    -> ('jycute73@gmail.com','Wong Jin Ying','016-5991059','35, Jalan Perpaduan, Desa Lawan Kuda, 31600 Gopeng, Perak');
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT OnlineBookstore

INSERT INTO OnlineBookstore (Bookstore_Code, Bookstore_Address, Bookstore_Phone) VALUES
('BS001','Lot 358, Jalan Perpaduan, 40172 Shah Alam, Selangor','03-2312471'), ('BS002','No. 3425, Jalan Jubli Perak, 31600 Gopeng, Perak','03-4743647'), ('BS003','Lot 14, Jalan Permai, 85771 Skudai, Johor','03-9034892'),
('BS004','2A-5-C, Jalan Wisma, 30300 Ipoh, Perak','09-3489124'),
('BS005','No. 214, Jalan 5/2E, 47300 Petaling Jaya, Selangor','03-7467846'), ('BS006','No. 49, Jalan Kecil, 59100 Bangsa Utama, Kuala Lumpur','06-9214714'), ('BS007','No. 2, Jalan Bentara 4, 59513 Kuala Lumpur, Kuala Lumpur','08-9827481'), ('BS008','34-D, Jalan Bukit Besi, 80250 Johor Bharu, Johor','01-2421444'),
('BS009','37, Taman Desa, 10797 George Town, Pulau Pinang','02-2342342'), ('BS010','6A-5, Jalan Industri 2/4, 47631 Subang Jaya, Selangor','04-3423424');

```
mysql> INSERT INTO OnlineBookstore (Bookstore_Code, Bookstore_Address, Bookstore_Phone)
    -> VALUES
    -> ('BS001','Lot 358, Jalan Perpaduan, 40172 Shah Alam, Selangor','03-2312471'),
    -> ('BS002','No. 3425, Jalan Jubli Perak, 31600 Gopeng, Perak','03-4743647'),
    -> ('BS003','Lot 14, Jalan Permai, 85771 Skudai, Johor','03-9034892'),
    -> ('BS004','2A-5-C, Jalan Wisma, 30300 Ipoh, Perak','09-3489124'),
    -> ('BS005','No. 214, Jalan 5/2E, 47300 Petaling Jaya, Selangor','03-7467846'),
    -> ('BS006','No. 49, Jalan Kecil, 59100 Bangsa Utama, Kuala Lumpur','06-9214714'),
    -> ('BS007','No. 2, Jalan Bentara 4, 59513 Kuala Lumpur, Kuala Lumpur','08-9827481'),
    -> ('BS008','34-D, Jalan Bukit Besi, 80250 Johor Bharu, Johor','01-2421444'),
    -> ('BS009','37, Taman Desa, 10797 George Town, Pulau Pinang','02-2342342'),
    -> ('BS010','6A-5, Jalan Industri 2/4, 47631 Subang Jaya, Selangor','04-3423424');
Query OK, 10 rows affected (0.00 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

INSERT Participant

INSERT INTO Participant (Participant_ID, Participant_Name, Participant_Mobile, Participant_Address, Participant_Email, Participant_Type)
VALUES
('PT001','Kelvin Liew Wei Wen','013-2305966','No.112, Jalan Merah, Kampung Gajah 31000, Perak','kelvin188@gmail.com','Malaysian'),
('PT002','Vijaya A/P Rajeswaran','016-5121222','80, Jalan 2/35, USJ 42R, 85771 Skudai, Johor','vijaya86@gmail.com','Malaysian'),
('PT003','Leong Zi Shan','015-4881327','No. 75, Jalan Wisma Putra 31T, PJS43, 50160 Titiwangsa, Kuala Lumpur','leong1327@gmail.com','Malaysian'),
('PT004','Ahmad Muqri Bin Zahir','013-8156469','No. 31, Jalan Bukit Bintang 96Y, PJU3, 34163 Gua Tempurung, Perak','ahmadmm@gmail.com','Malaysian'),
('PT005','Syed Saddiq Bin Muhammad','018-4476730','8P-10, Jalan 4/84D, Bandar Pinang, 72229 Sungai Gadut, Negeri Sembilan','syedsd6868@gmail.com','Malaysian'),
('PT006','Mohamad Sanjaya Bin Kamal','011-45539966','No. 299, Jalan Dato Onn Jaafar, 30300 Ipoh, Perak','powersanjaya01@gmail.com','Malaysian'),
('PT007','Nurul Farah Binti Abdulah Syabir','013-4330203','No. 168, Jalan Halaman Meriah, Taman Aman, 31800 Tanjong Tualang, Perak','farahhh53@gmail.com','Malaysian'),
('PT008','Yogeshwaran A/L Kumar','010-8899283','No. 3-10, Jalan SS2/67, SS2, 47300 Petaling Jaya, Selangor','yogesh31@gmail.com','Malaysian'),
('PT209','Chen Dong Pin','86-139-1099-8888','Beijing, Chaoyang District, Lihong Garden, Building 1, 18A.','chendp007@gmail.com','Foreigner'),
('PT010','Leanne Lee Yan Ting','011-67677897','No. D88, Jalan Besar, 31900 Kampar, Perak','leanne86@gmail.com','Malaysian'),
('PT011','Syafina binti Fadillah','014-773 9172','No. 36, Jalan 4, Laman Keramat, 21055 Bukit Besi, Terengganu','syasya71@gmail.com','Malaysian'),
('PT212','Carla W. Jamerson','(555) 555-1234','132, My Street, Kingston, New York 12401.','carlacute111@gmail.com','Foreigner');

```
mysql> INSERT INTO Participant (Participant_ID, Participant_Name, Participant_Mobile, Participant_Address, Participant_Email, Participant_Type)
    -> VALUES
    -> ('PT001','Kelvin Liew Wei Wen','013-2305966','No.112, Jalan Merah, Kampung Gajah 31000, Perak','kelvin188@gmail.com','Malaysian'),
    -> ('PT002','Vijaya A/P Rajeswaran','016-5121222','80, Jalan 2/35, USJ 42R, 85771 Skudai, Johor','vijaya86@gmail.com','Malaysian'),
    -> ('PT003','Leong Zi Shan','015-4881327','No. 75, Jalan Wisma Putra 31T, PJS43, 50160 Titiwangsa, Kuala Lumpur','leong1327@gmail.com','Malaysian'),
    -> ('PT004','Ahmad Muqri Bin Zahir','013-8156469','No. 31, Jalan Bukit Bintang 96Y, PJU3, 34163 Gua Tempurung, Perak','ahmadmm@gmail.com','Malaysian'),
    -> ('PT005','Syed Saddiq Bin Muhammad','018-4476730','8P-10, Jalan 4/84D, Bandar Pinang, 72229 Sungai Gadut, Negeri Sembilan','syedsd6868@gmail.com','Malaysian'),
    -> ('PT006','Mohamad Sanjaya Bin Kamal','011-45539966','No. 299, Jalan Dato Onn Jaafar, 30300 Ipoh, Perak','powersanjaya01@gmail.com','Malaysian'),
    -> ('PT007','Nurul Farah Binti Abdulah Syabir','013-4330203','No. 168, Jalan Halaman Meriah, Taman Aman, 31800 Tanjong Tualang, Perak','farahhh53@gmail.com','Malaysian'),
    -> ('PT008','Yogeshwaran A/L Kumar','010-8899283','No. 3-10, Jalan SS2/67, SS2, 47300 Petaling Jaya, Selangor','yogesh31@gmail.com','Malaysian'),
    -> ('PT209','Chen Dong Pin','86-139-1099-8888','Beijing, Chaoyang District, Lihong Garden, Building 1, 18A.','chendp007@gmail.com','Foreigner'),
    -> ('PT010','Leanne Lee Yan Ting','011-67677897','No. D88, Jalan Besar, 31900 Kampar, Perak','leanne86@gmail.com','Malaysian'),
    -> ('PT011','Syafina binti Fadillah','014-773 9172','No. 36, Jalan 4, Laman Keramat, 21055 Bukit Besi, Terengganu','syasya71@gmail.com','Malaysian'),
    -> ('PT212','Carla W. Jamerson','(555) 555-1234','132, My Street, Kingston, New York 12401.','carlacute111@gmail.com','Foreigner');
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT Competition

INSERT INTO Competition (Competition_ID, Competition_Type, Competition_Date) VALUES
('C0001','News Reader','2022-09-25'),
('C0012','Fairy Story Telling','2022-10-23'),
('C0023','Poetry Reading','2022-10-24'),
('C0034','Spanish Challenge Reading Competition','2022-11-15'), ('C0035','Japanese Challenge Reading Competition','2022-11-16'), ('C0036','German Challenge Reading Competition','2022-11-17'), ('C0037','Chinese Challenge Reading Competition','2022-11-18'), ('C0042','Arabic Challenge Reading Competition','2022-12-20'), ('C0044','Cantonese Challenge Reading Competition','2022-12-21'), ('C0046','English Challenge Reading Competition','2022-12-22'), ('C0053','Hokkien Challenge Reading Competition','2022-12-12'), ('C0060','Bahasa Melayu Challenge Reading Competition','2022-10-20');

```
mysql> INSERT INTO Competition (Competition_ID, Competition_Type, Competition_Date)
    -> VALUES
    -> ('C0001','News Reader','2022-09-25'),
    -> ('C0012','Fairy Story Telling','2022-10-23'),
    -> ('C0023','Poetry Reading','2022-10-24'),
    -> ('C0034','Spanish Challenge Reading Competition','2022-11-15'),
    -> ('C0035','Japanese Challenge Reading Competition','2022-11-16'),
    -> ('C0036','German Challenge Reading Competition','2022-11-17'),
    -> ('C0037','Chinese Challenge Reading Competition','2022-11-18'),
    -> ('C0042','Arabic Challenge Reading Competition','2022-12-20'),
    -> ('C0044','Cantonese Challenge Reading Competition','2022-12-21'),
    -> ('C0046','English Challenge Reading Competition','2022-12-22'),
    -> ('C0053','Hokkien Challenge Reading Competition','2022-12-12'),
    -> ('C0060','Bahasa Melayu Challenge Reading Competition','2022-10-20');
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT BOOK

INSERT INTO Book (Book_ISBN, Author_ID, Publisher_ID, Book_Year, Book_Title, Price) VALUES
('978-1-60309-502-0','A008','P0004',2002,'Animal Stories',19.99),
('978-1-60309-454-2','A002','P0007',2003,'The Delicacy',24.99),
('978-1-60309-492-4','A004','P0003',2022,'Doughnuts and Doom',14.99),
('978-1-60309-513-6','A007','P0010',2017,'Highwater Pants',14.59),
('978-1-60309-514-3','A003','P0004',2018,'Under the River',24.99),
('978-1-60309-038-4','A001','P0006',2008,'Twinkle Power',9.95),
('978-1-60309-505-1','A005','P0002',1995,'The League of Extraordinary Gentlemen',29.95), ('978-1-60309-344-6','A009','P0004',1990,'Lost Girls',49.99),
('978-1-60309-504-4','A009','P0008',1991,'The Graphic Novel',14.95),
('978-1-891830-02-0','A010','P0009',2006,'A Comic Strip Biography',39.99);

```
mysql> INSERT INTO Book (Book_ISBN, Author_ID, Publisher_ID, Book_Year, Book_Title, Price)
    -> VALUES
    -> ('978-1-60309-502-0','A008','P0004',2002,'Animal Stories',19.99),
    -> ('978-1-60309-454-2','A002','P0007',2003,'The Delicacy',24.99),
    -> ('978-1-60309-492-4','A004','P0003',2022,'Doughnuts and Doom',14.99),
    -> ('978-1-60309-513-6','A007','P0010',2017,'Highwater Pants',14.59),
    -> ('978-1-60309-514-3','A003','P0004',2018,'Under the River',24.99),
    -> ('978-1-60309-038-4','A001','P0006',2008,'Twinkle Power',9.95),
    -> ('978-1-60309-505-1','A005','P0002',1995,'The League of Extraordinary Gentlemen',29.95),
    -> ('978-1-60309-344-6','A009','P0004',1990,'Lost Girls',49.99),
    -> ('978-1-60309-504-4','A009','P0008',1991,'The Graphic Novel',14.95),
    -> ('978-1-891830-02-0','A010','P0009',2006,'A Comic Strip Biography',39.99);
Query OK, 10 rows affected (0.00 sec)
Records: 10  Duplicates: 0  Warnings: 0
```

INSERT ShoppingBasket

INSERT INTO ShoppingBasket (ShoppingBasket_ID, Customer_Email, Shopping_Date) VALUES
(20221229,'armiraaaa47@gmail.com','2022-11-10'), (20221225,'hajiftd8877@gmail.com','2022-10-12'),
(20220103,'slmisthebest32@gmail.com','2022-08-16'), (20220216,'preetaking007@gmail.com','2022-07-25'),
(20200102,'jessietjh20@gmail.com','2022-09-08'), (20210938,'chendp007@gmail.com','2022-10-17'),
(20210987,'syasya71@gmail.com','2022-10-09'), (20209876,'armiraaaa47@gmail.com','2022-11-12'),
(20198765,'zmchen11@gmail.com','2022-12-09'), (20220308,'nazeem666@gmail.com','2022-12-01'),
(20179876,'loh888@gmail.com','2022-12-12'),
(20142578,'jycute73@gmail.com','2022-09-01');

```
mysql>
mysql> INSERT INTO ShoppingBasket (ShoppingBasket_ID, Customer_Email, Shopping_Date)
    -> VALUES
    -> (20221229,'armiraaaa47@gmail.com','2022-11-10'),
    -> (20221225,'hajiftd8877@gmail.com','2022-10-12'),
    -> (20220103,'slmisthebest32@gmail.com','2022-08-16'),
    -> (20220216,'preetaking007@gmail.com','2022-07-25'),
    -> (20200102,'jessietjh20@gmail.com','2022-09-08'),
    -> (20210938,'chendp007@gmail.com','2022-10-17'),
    -> (20210987,'syasya71@gmail.com','2022-10-09'),
    -> (20209876,'armiraaaa47@gmail.com','2022-11-12'),
    -> (20198765,'zmchen11@gmail.com','2022-12-09'),
    -> (20220308,'nazeem666@gmail.com','2022-12-01'),
    -> (20179876,'loh888@gmail.com','2022-12-12'),
    -> (20142578,'jycute73@gmail.com','2022-09-01');
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT ShoppingBasket_Book

INSERT INTO ShoppingBasket_Book (ShoppingBasket_ID, Book_ISBN, CountSBB) VALUES
(20221229,'978-1-60309-502-0',4),
(20221225,'978-1-60309-454-2',7),
(20220103,'978-1-60309-492-4',3),
(20220216,'978-1-60309-513-6',2),
(20200102,'978-1-60309-514-3',4),
(20210938,'978-1-60309-038-4',14),
(20210987,'978-1-60309-505-1',23),
(20209876,'978-1-60309-344-6',12),
(20198765,'978-1-60309-504-4',1),
(20220308,'978-1-891830-02-0',2),
(20179876,'978-1-60309-505-1',6),
(20142578,'978-1-60309-513-6',3);

```
mysql> INSERT INTO ShoppingBasket_Book (ShoppingBasket_ID, Book_ISBN, CountSBB)
    -> VALUES
    -> (20221229,'978-1-60309-502-0',4),
    -> (20221225,'978-1-60309-454-2',7),
    -> (20220103,'978-1-60309-492-4',3),
    -> (20220216,'978-1-60309-513-6',2),
    -> (20200102,'978-1-60309-514-3',4),
    -> (20210938,'978-1-60309-038-4',14),
    -> (20210987,'978-1-60309-505-1',23),
    -> (20209876,'978-1-60309-344-6',12),
    -> (20198765,'978-1-60309-504-4',1),
    -> (20220308,'978-1-891830-02-0',2),
    -> (20179876,'978-1-60309-505-1',6),
    -> (20142578,'978-1-60309-513-6',3);
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT Warehouse

INSERT INTO Warehouse (Warehouse_Code, Bookstore_Code, Warehouse_Phone, Warehouse_Address) VALUES
(432133,'BS001','03-3257209','Lot 345, Jalan Paramesara 1/4, 71800 Nilai, Negeri Sembilan'),
(493110,'BS002','03-4837264','Lot 98, Jalan Desa, 50000 Kuala Lumpur, Kuala Lumpur'), (487411,'BS003','03-9742389','Lot 25, Jalan Putera 2/9, 85000 Segamat, Johor'), (401548,'BS004','02-4937474','Lot 62, Jalan Abdullah 3/7, 43000 Kajang, Selangor'), (437910,'BS005','01-9832424','Lot 262, Jalan Arif 3/8, 46200 Petaling Jaya, Selangor'), (432750,'BS006','06-3242788','Lot 152, Jalan Bangsar, 52100 Kepong, Kuala Lumpur'), (450929,'BS007','09-3423428','Lot 7A, Jalan Perak, 46200 Petaling Jaya, Selangor'), (455685,'BS008','07-3444783','Lot D35, Jalan Minah, 80200 Johor Bharu, Johor'), (428170,'BS009','05-3427398','Lot 2A, Jalan Perpaduan, 59513 Kuala Lumpur, Kuala Lumpur'), (495979,'BS010','05-4234793','Lot 34, Jalan Permai S1, 40172 Shah Alam, Selangor'), (443618,'BS004','01-8725892','Lot 274, Jalan Bukit Besi, 50160 Titiwangsa, Kuala Lumpur'), (489320,'BS008','09-4238253','Lot 5A, Jalan Abdul, 43000 Kajang, Selangor');

```
mysql> INSERT INTO Warehouse (Warehouse_Code, Bookstore_Code, Warehouse_Phone, Warehouse_Address)
    -> VALUES
    -> (432133,'BS001','03-3257209','Lot 345, Jalan Paramesara 1/4, 71800 Nilai, Negeri Sembilan'),
    -> (493110,'BS002','03-4837264','Lot 98, Jalan Desa, 50000 Kuala Lumpur, Kuala Lumpur'),
    -> (487411,'BS003','03-9742389','Lot 25, Jalan Putera 2/9, 85000 Segamat, Johor'),
    -> (401548,'BS004','02-4937474','Lot 62, Jalan Abdullah 3/7, 43000 Kajang, Selangor'),
    -> (437910,'BS005','01-9832424','Lot 262, Jalan Arif 3/8, 46200 Petaling Jaya, Selangor'),
    -> (432750,'BS006','06-3242788','Lot 152, Jalan Bangsar, 52100 Kepong, Kuala Lumpur'),
    -> (450929,'BS007','09-3423428','Lot 7A, Jalan Perak, 46200 Petaling Jaya, Selangor'),
    -> (455685,'BS008','07-3444783','Lot D35, Jalan Minah, 80200 Johor Bharu, Johor'),
    -> (428170,'BS009','05-3427398','Lot 2A, Jalan Perpaduan,  59513 Kuala Lumpur, Kuala Lumpur'),
    -> (495979,'BS010','05-4234793','Lot 34, Jalan Permai S1, 40172 Shah Alam, Selangor'),
    -> (443618,'BS004','01-8725892','Lot 274, Jalan Bukit Besi, 50160 Titiwangsa, Kuala Lumpur'),
    -> (489320,'BS008','09-4238253','Lot 5A, Jalan Abdul, 43000 Kajang, Selangor');
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

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INSERT Warehouse_Book

INSERT INTO Warehouse_Book (Warehouse_Code, Book_ISBN, CountWB) VALUES
(432133,'978-1-60309-502-0',4444),
(493110,'978-1-60309-454-2',3245),
(487411,'978-1-60309-492-4',3465),
(401548,'978-1-60309-513-6',2368),
(437910,'978-1-60309-514-3',8763),
(432750,'978-1-60309-038-4',4354),
(450929,'978-1-60309-505-1',2489),
(455685,'978-1-60309-344-6',6543),
(428170,'978-1-60309-504-4',5521),
(495979,'978-1-891830-02-0',4692),
(443618,'978-1-60309-513-6',9023),
(489320,'978-1-60309-038-4',1234);

```
mysql> INSERT INTO Warehouse_Book (Warehouse_Code, Book_ISBN, CountWB)
    -> VALUES
    -> (432133,'978-1-60309-502-0',4444),
    -> (493110,'978-1-60309-454-2',3245),
    -> (487411,'978-1-60309-492-4',3465),
    -> (401548,'978-1-60309-513-6',2368),
    -> (437910,'978-1-60309-514-3',8763),
    -> (432750,'978-1-60309-038-4',4354),
    -> (450929,'978-1-60309-505-1',2489),
    -> (455685,'978-1-60309-344-6',6543),
    -> (428170,'978-1-60309-504-4',5521),
    -> (495979,'978-1-891830-02-0',4692),
    -> (443618,'978-1-60309-513-6',9023),
    -> (489320,'978-1-60309-038-4',1234);
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT Staff

INSERT INTO Staff (Staff_ID, Bookstore_Code, Staff_Name, Staff_Mobile, Staff_Email) VALUES
('ST023','BS001','Grace Lim Zi Wei','01-9956 4992','gracelimziwei@gmail.com'), ('ST222','BS002','Alan Ching Khai Zhe','03-723 8872','alanchingkhaizhe@gmail.com'), ('ST120','BS003','Khairul bin Abdul Rahman','04-879 6400','khairulbinabdulrahman@gmail.com'), ('ST640','BS004','Danish a/l Thurgashini','07-992 0183','danishalthurgashini@gmail.com'), ('ST270','BS005','Rosmah binti Hema','03-123 8493','rosmahbintihema@gmail.com'), ('ST556','BS006','Syed Saddiq bin','03-829 9923','syedsaddiqbinabdul@gmail.com'), ('ST762','BS007','Ken Fong Ka Quan','07-847 0327','kenfongkaquan@gmail.com'), ('ST007','BS008','Dharshen a/l Danny','06-822 4572','dharshenaldanny@gmail.com'), ('ST466','BS009','Lim Pek Sheng','07-921 0293','limpeksheng@gmail.com'), ('ST189','BS010','David Lau Jing Luen','06-773 2200','davidlaujingleun@gmail.com'), ('ST203','BS004','Christine Chong','03-990 0214','christinechong@gmail.com'), ('ST822','BS008','Daniel Tan','03-280 0293','danieltan@gamil.com');

```
mysql> INSERT INTO Staff (Staff_ID, Bookstore_Code, Staff_Name, Staff_Mobile, Staff_Email)
    -> VALUES
    -> ('ST023','BS001','Grace Lim Zi Wei','01-9956 4992','gracelimziwei@gmail.com'),
    -> ('ST222','BS002','Alan Ching Khai Zhe','03-723 8872','alanchingkhaizhe@gmail.com'),
    -> ('ST120','BS003','Khairul bin Abdul Rahman','04-879 6400','khairulbinabdulrahman@gmail.com'),
    -> ('ST640','BS004','Danish a/l Thurgashini','07-992 0183','danishalthurgashini@gmail.com'),
    -> ('ST270','BS005','Rosmah binti Hema','03-123 8493','rosmahbintihema@gmail.com'),
    -> ('ST556','BS006','Syed Saddiq bin','03-829 9923','syedsaddiqbinabdul@gmail.com'),
    -> ('ST762','BS007','Ken Fong Ka Quan','07-847 0327','kenfongkaquan@gmail.com'),
    -> ('ST007','BS008','Dharshen a/l Danny','06-822 4572','dharshenaldanny@gmail.com'),
    -> ('ST466','BS009','Lim Pek Sheng','07-921 0293','limpeksheng@gmail.com'),
    -> ('ST189','BS010','David Lau Jing Luen','06-773 2200','davidlaujingleun@gmail.com'),
    -> ('ST203','BS004','Christine Chong','03-990 0214','christinechong@gmail.com'),
    -> ('ST822','BS008','Daniel Tan','03-280 0293','danieltan@gamil.com');
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT Prize

INSERT INTO Prize (Prize_ID, Participant_ID, Staff_ID, Prize_Name) VALUES
('PR001','PT001','ST023','Book Voucher RM50'),
('PR002','PT002','ST222','Tng Voucher RM150'),
('PR003','PT003','ST120','Book Voucher RM150'),
('PR004','PT004','ST640','Tng Voucher RM120'), ('PR005','PT005','ST270','GrabPay Voucher RM100'),
('PR006','PT006','ST556','Lazada Voucher RM100'), ('PR007','PT007','ST762','Shopee Voucher RM120'),
('PR008','PT008','ST007','Tng Voucher RM120'), ('PR009','PT209','ST466','Shopee Voucher RM200'),
('PR010','PT010','ST189','Book Voucher RM200'), ('PR011','PT011','ST203','Lazada Voucher RM120'),
('PR012','PT212','ST822','Tng Voucher RM120');

```
mysql> INSERT INTO Prize (Prize_ID, Participant_ID, Staff_ID, Prize_Name)
    -> VALUES
    -> ('PR001','PT001','ST023','Book Voucher RM50'),
    -> ('PR002','PT002','ST222','Tng Voucher RM150'),
    -> ('PR003','PT003','ST120','Book Voucher RM150'),
    -> ('PR004','PT004','ST640','Tng Voucher RM120'),
    -> ('PR005','PT005','ST270','GrabPay Voucher RM100'),
    -> ('PR006','PT006','ST556','Lazada Voucher RM100'),
    -> ('PR007','PT007','ST762','Shopee Voucher RM120'),
    -> ('PR008','PT008','ST007','Tng Voucher RM120'),
    -> ('PR009','PT209','ST466','Shopee Voucher RM200'),
    -> ('PR010','PT010','ST189','Book Voucher RM200'),
    -> ('PR011','PT011','ST203','Lazada Voucher RM120'),
    -> ('PR012','PT212','ST822','Tng Voucher RM120');
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

INSERT Score

INSERT INTO Score (Score_ID, Participant_ID, Competition_ID, Prize_ID, Score_Total) VALUES
('SD0007','PT001','C0001','PR001',645),
('SD0208','PT002','C0012','PR002',756),
('SD3009','PT003','C0023','PR003',858),
('SD0110','PT004','C0034','PR004',452),
('SD0217','PT005','C0035','PR005',654),
('SD2012','PT006','C0036','PR006',999),
('SD0713','PT007','C0037','PR007',425),
('SD9014','PT008','C0042','PR008',534),
('SD5015','PT209','C0044','PR009',756),
('SD0612','PT010','C0046','PR010',657),
('SD0070','PT011','C0053','PR011',895),
('SD0820','PT212','C0060','PR012',666);

```
mysql> INSERT INTO Score (Score_ID, Participant_ID, Competition_ID, Prize_ID, Score_Total)
    -> VALUES
    -> ('SD0007','PT001','C0001','PR001',645),
    -> ('SD0208','PT002','C0012','PR002',756),
    -> ('SD3009','PT003','C0023','PR003',858),
    -> ('SD0110','PT004','C0034','PR004',452),
    -> ('SD0217','PT005','C0035','PR005',654),
    -> ('SD2012','PT006','C0036','PR006',999),
    -> ('SD0713','PT007','C0037','PR007',425),
    -> ('SD9014','PT008','C0042','PR008',534),
    -> ('SD5015','PT209','C0044','PR009',756),
    -> ('SD0612','PT010','C0046','PR010',657),
    -> ('SD0070','PT011','C0053','PR011',895),
    -> ('SD0820','PT212','C0060','PR012',666);
Query OK, 12 rows affected (0.00 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

PRINT CONTENT (USING SELECT *)

SELECT * FROM Author;

```
mysql> SELECT * FROM Author;
+-----------+------------------------------+----------------------------------------------------------+
| Author_ID | Author_Name                  | Author_Address                                           |
+-----------+------------------------------+----------------------------------------------------------+
| A001      | Yew Kwang Hui                | No. 567, Jalan Putera, 46200 Petaling Jaya, Selangor     |
| A002      | Samsudin Abdullah bin Fakri  | Lot 4892, Taman Desa, 80250 Johor Bharu, Johor           |
| A003      | Chetan A/L Bangla            | No. 567, Jalan Raja Chulan, 50000 Kuala Lumpur, Kuala Lumpur |
| A004      | Grace Wong Jie Hui           | 123-2A, Jalan Enstek 3/8, 71800 Nilai, Negeri Sembilan   |
| A005      | Siti Khadijah binti Kamal    | Pt 2464, Taman Guchil Jaya, 18000 Kuala Krai, Kelantan   |
| A006      | Amrita A/P Pritia            | Lot 2953, Jalan Permai, 14020 Bukit Mertajam, Penang     |
| A007      | Uthaya A/L Sankar            | No. 382, Taman Desa Intan, 11500 Ayer Itam, Pulau Pinang |
| A008      | Lim Kit Ching                | Pt. 3295, Jalan Maarof 2/3, 85000, Segamat, Johor        |
| A009      | Sarah Rosmah binti Abdullah  | Lot. 253-7A, Jalan Desa Mawar, 11500 Ayer Itam, Pulau Pinang |
| A010      | Ali Abdulah bin Ahmad        | No. 46, Jalan Puteri, 10150 George Town, Pulau Pinang    |
+-----------+------------------------------+----------------------------------------------------------+
10 rows in set (0.00 sec)
```

SELECT * FROM Publisher;

```
mysql> SELECT * FROM Publisher;
+-------------+------------------------+----------------------------------------------------------------+----------------+
| Publisher_ID | Publisher_Name        | Publisher_Address                                              | Publisher_Phone |
+-------------+------------------------+----------------------------------------------------------------+----------------+
| P0001       | Oxferd Fajar Sdn Bhd   | 999, Jalan Pemaju, 40150 Shah Alam, Selangor                   | 03-5629400     |
| P0002       | GoldFish Book Sdn Bhd  | No. 360, Lintang Macallum, 10300 George Town, Pulau Pinang     | 09-9994424     |
| P0003       | Hup Seng Book Sdn Bhd  | 5529, Jalan Marif 2/5, 59000 Bangsar, Selangor                 | 01-4248892     |
| P0004       | Kanying Publication Sdn Bhd | 35, Jalan Industri Kidamai,43000 Kajang, Selangor         | 04-2423949     |
| P0005       | Navinden Pubication Sdn Bhd | 73, Jalan Maarof, Bangsar, 59000 Kuala Lumpur, Kuala Lumpur | 03-2235490    |
| P0006       | Rosmah Book Sdn Bhd    | No. 35, Block C5, Jalan Parameswara, 47301 Petaling Jaya, Selangor | 06-8795292 |
| P0007       | Pernebit UM            | C4-26, Bukit Bakar Industrial Area, 52100 Kepong, Kuala Lumpur | 08-4837897     |
| P0008       | Pelangor Pubishing Group | Lot 22, Taman Perindustrian Ayer, 80250, Johor Bharu, Johor | 07-0217474   |
| P0009       | Sental Press Sdn Bhd   | B-4-C, Jalan Kenari 5, Alam Damai, 56000 Cheras, Kuala Lumpur  | 03-4258393     |
| P0010       | Ali Publication Sdn Bhd | 58, Jalan Bukit 24/5, Seksyen 51 Petaling Jaya, 46200 Petaling Jaya, Selangor | 02-2423490 |
+-------------+------------------------+----------------------------------------------------------------+----------------+
10 rows in set (0.00 sec)
```

SELECT * FROM Customer;

```
mysql> SELECT * FROM Customer;
+----------------------------+--------------------------------+----------------+----------------------------------------------------------------+
| Customer_Email             | Customer_Name                  | Customer_Phone | Customer_Address                                               |
+----------------------------+--------------------------------+----------------+----------------------------------------------------------------+
| armiraaaa47@gmail.com      | Nur Armira binti Syed Fairuz   | 014-1234122    | Lot 74, Jalan Universiti, 46200 Petaling Jaya, Selangor        |
| chendp007@gmail.com        | Chen Dong Pin                  | 012-9669098    | No. 12 & 14A, Jalan Bentara 1, Taman Iskandar, 80050 Johor Bahru, Johor |
| hajiftd8877@gmail.com      | Haji Fathuddin bin Idham       | 011-74219300   | No. 92, Jalan Burma, 10797 George Town, Pulau Pinang           |
| jessietjh20@gmail.com      | Jessie Tan Jing Hui            | 016-4145675    | 4, Jalan Industri USJ, Taman Perindustrian Usj 1, 47631 Subang Jaya, Selangor |
| jycute73@gmail.com         | Wong Jin Ying                  | 016-5991059    | 35, Jalan Perpaduan, Desa Lawan Kuda, 31600 Gopeng, Perak      |
| loh888@gmail.com           | Loh Jing Yi                    | 011-4242421    | 61 & 61-A, Jalan Harimau Tarum, Taman Century, 80250 Johor Bahru, Johor |
| nazeem666@gmail.com        | Nazeem Akmal bin Nik Zamani    | 010-8461063    | No. 152, Jalan Lembah, Taman Tasek, 80200, Johor Bahru, Johor  |
| preetaking007@gmail.com    | Preeta A/L Selvaraju           | 018-2457636    | 58, Jalan Jubli Perak Seksyen, 40172 Shah Alam, Selangor       |
| shoba99@gmail.com          | Shoba Sundram A/P Pragash Ammasee | 017-3217541 | No. 067, Jalan 1/12, Taman Jordan, 31900 Kampar, Perak        |
| slmisthebest32@gmail.com   | Siew Loong Mon                 | 019-8717818    | 61, Jalan Imbi, Imbi, 57070 Kuala Lumpur, Kuala Lumpur         |
| syasya71@gmail.com         | Syafina binti Fadillah         | 014-7739172    | No. 36, Jalan 4, Laman Keramat, 21055 Bukit Besi, Terengganu   |
| zmchen11@gmail.com         | Chen Zhi Ming                  | 011-38380187   | 7, Jalan Medan Midah, Taman Midah, 59513 Kuala Lumpur,Kuala Lumpur |
+----------------------------+--------------------------------+----------------+----------------------------------------------------------------+
12 rows in set (0.00 sec)
```

SELECT * FROM Participant;

```
mysql> SELECT * FROM Participant;
+----------------+----------------------------------+-------------------+----------------------------------------------------------------+-------------------------+------------------+
| Participant_ID | Participant_Name                 | Participant_Mobile | Participant_Address                                           | Participant_Email       | Participant_Type |
+----------------+----------------------------------+-------------------+----------------------------------------------------------------+-------------------------+------------------+
| PT001          | Kelvin Liew Wei Wen              | 013-2305966       | No.112, Jalan Merah, Kampung Gajah 31000, Perak               | kelvin188@gmail.com     | Malaysian        |
| PT002          | Vijaya A/P Rajeswaran            | 016-5121222       | 80, Jalan 2/35, USJ 42R, 85771 Skudai, Johor                 | vijaya86@gmail.com      | Malaysian        |
| PT003          | Leong Zi Shan                    | 015-4881327       | No. 75, Jalan Wisma Putra 31T, PJS43, 50160 Titiwangsa, Kuala Lumpur | leong1327@gmail.com | Malaysian    |
| PT004          | Ahmad Muqri Bin Zahir            | 013-8156469       | No. 31, Jalan Bukit Bintang 96Y, PJU3, 34163 Gua Tempurung, Perak | ahmadmm@gmail.com   | Malaysian      |
| PT005          | Syed Saddiq Bin Muhammad         | 018-4476730       | 8P-10, Jalan 4/84D, Bandar Pinang, 72229 Sungai Gadut, Negeri Sembilan | syedsd6868@gmail.com | Malaysian |
| PT006          | Mohamad Sanjaya Bin Kamal        | 011-45539966      | No. 299, Jalan Dato Onn Jaafar, 30300 Ipoh, Perak            | powersanjaya01@gmail.com | Malaysian      |
| PT007          | Nurul Farah Binti Abdulah Syabir | 013-4330203       | No. 168, Jalan Halaman Meriah, Taman Aman, 31800 Tanjong Tualang, Perak | farahhh53@gmail.com | Malaysian |
| PT008          | Yogeshwaran A/L Kumar            | 010-8899283       | No. 3-10, Jalan SS2/67, SS2, 47300 Petaling Jaya, Selangor   | yogesh31@gmail.com      | Malaysian        |
| PT010          | Leanne Lee Yan Ting              | 011-67677897      | No. D88, Jalan Besar, 31900 Kampar, Perak                    | leanne86@gmail.com      | Malaysian        |
| PT011          | Syafina binti Fadillah           | 014-773 9172      | No. 36, Jalan 4, Laman Keramat, 21055 Bukit Besi, Terengganu | syasya71@gmail.com      | Malaysian        |
| PT209          | Chen Dong Pin                    | 86-139-1099-8888  | Beijing, Chaoyang District, Lihong Garden, Building 1, 18A.   | chendp007@gmail.com     | Foreigner        |
| PT212          | Carla W. Jamerson                | (555) 555-1234    | 132, My Street, Kingston, New York 12401.                    | carlacute111@gmail.com  | Foreigner        |
+----------------+----------------------------------+-------------------+----------------------------------------------------------------+-------------------------+------------------+
12 rows in set (0.00 sec)
```

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SELECT * FROM OnlineBookstore;

```
mysql> SELECT * FROM OnlineBookstore;
+----------------+--------------------------------------------------------------+----------------+
| Bookstore_Code | Bookstore_Address                                            | Bookstore_Phone |
+----------------+--------------------------------------------------------------+----------------+
| BS001          | Lot 358, Jalan Perpaduan, 40172 Shah Alam, Selangor          | 03-2312471     |
| BS002          | No. 3425, Jalan Jubli Perak, 31600 Gopeng, Perak             | 03-4743647     |
| BS003          | Lot 14, Jalan Permai, 85771 Skudai, Johor                    | 03-9034892     |
| BS004          | 2A-5-C, Jalan Wisma, 30300 Ipoh, Perak                       | 09-3489124     |
| BS005          | No. 214, Jalan 5/2E, 47300 Petaling Jaya, Selangor           | 03-7467846     |
| BS006          | No. 49, Jalan Kecil, 59100 Bangsa Utama, Kuala Lumpur        | 06-9214714     |
| BS007          | No. 2, Jalan Bentara 4, 59513 Kuala Lumpur, Kuala Lumpur     | 08-9827481     |
| BS008          | 34-D, Jalan Bukit Besi, 80250 Johor Bharu, Johor             | 01-2421444     |
| BS009          | 37, Taman Desa, 10797 George Town, Pulau Pinang              | 02-2342342     |
| BS010          | 6A-5, Jalan Industri 2/4, 47631 Subang Jaya, Selangor        | 04-3423424     |
+----------------+--------------------------------------------------------------+----------------+
10 rows in set (0.00 sec)
```

 SELECT * FROM Competition;

```
mysql> SELECT * FROM Competition;
+----------------+------------------------------------------------+------------------+
| Competition_ID | Competition_Type                               | Competition_Date |
+----------------+------------------------------------------------+------------------+
| C0001          | News Reader                                    | 2022-09-25       |
| C0012          | Fairy Story Telling                            | 2022-10-23       |
| C0023          | Poetry Reading                                 | 2022-10-24       |
| C0034          | Spanish Challenge Reading Competition          | 2022-11-15       |
| C0035          | Japanese Challenge Reading Competition         | 2022-11-16       |
| C0036          | German Challenge Reading Competition           | 2022-11-17       |
| C0037          | Chinese Challenge Reading Competition          | 2022-11-18       |
| C0042          | Arabic Challenge Reading Competition           | 2022-12-20       |
| C0044          | Cantonese Challenge Reading Competition        | 2022-12-21       |
| C0046          | English Challenge Reading Competition          | 2022-12-22       |
| C0053          | Hokkien Challenge Reading Competition          | 2022-12-12       |
| C0060          | Bahasa Melayu Challenge Reading Competition    | 2022-10-20       |
+----------------+------------------------------------------------+------------------+
12 rows in set (0.00 sec)
```

SELECT * FROM Book;

```
mysql> SELECT * FROM Book;
+--------------------+-----------+--------------+-----------+-----------------------------------+-------+
| Book_ISBN          | Author_ID | Publisher_ID | Book_Year | Book_Title                        | Price |
+--------------------+-----------+--------------+-----------+-----------------------------------+-------+
| 978-1-60309-038-4  | A001      | P0006        |      2008 | Twinkle Power                     |  9.95 |
| 978-1-60309-344-6  | A009      | P0004        |      1990 | Lost Girls                        | 49.99 |
| 978-1-60309-454-2  | A002      | P0007        |      2003 | The Delicacy                      | 24.99 |
| 978-1-60309-492-4  | A004      | P0003        |      2022 | Doughnuts and Doom                | 14.99 |
| 978-1-60309-502-0  | A008      | P0004        |      2002 | Animal Stories                    | 19.99 |
| 978-1-60309-504-4  | A009      | P0008        |      1991 | The Graphic Novel                 | 14.95 |
| 978-1-60309-505-1  | A005      | P0002        |      1995 | The League of Extraordinary Gentlemen | 29.95 |
| 978-1-60309-513-6  | A007      | P0010        |      2017 | Highwater Pants                   | 14.59 |
| 978-1-60309-514-3  | A003      | P0004        |      2018 | Under the River                   | 24.99 |
| 978-1-891830-02-0  | A010      | P0009        |      2006 | A Comic Strip Biography           | 39.99 |
+--------------------+-----------+--------------+-----------+-----------------------------------+-------+
10 rows in set (0.00 sec)
```

SELECT * FROM ShoppingBasket;

```
mysql> SELECT * FROM ShoppingBasket;
+------------------+-------------------------+---------------+
| ShoppingBasket_ID | Customer_Email         | Shopping_Date |
+------------------+-------------------------+---------------+
|         20142578 | jycute73@gmail.com      | 2022-09-01    |
|         20179876 | loh888@gmail.com        | 2022-12-12    |
|         20198765 | zmchen11@gmail.com      | 2022-12-09    |
|         20200102 | jessietjh20@gmail.com   | 2022-09-08    |
|         20209876 | armiraaaa47@gmail.com   | 2022-11-12    |
|         20210938 | chendp007@gmail.com     | 2022-10-17    |
|         20210987 | syasya71@gmail.com      | 2022-10-09    |
|         20220103 | slmisthebest32@gmail.com| 2022-08-16    |
|         20220216 | preetaking007@gmail.com | 2022-07-25    |
|         20220308 | nazeem666@gmail.com     | 2022-12-01    |
|         20221225 | hajiftd8877@gmail.com   | 2022-10-12    |
|         20221229 | armiraaaa47@gmail.com   | 2022-11-10    |
+------------------+-------------------------+---------------+
12 rows in set (0.00 sec)
```

SELECT * FROM ShoppingBasket_Book;

```
mysql> SELECT * FROM ShoppingBasket_Book;
+-------------------+--------------------+---------+
| ShoppingBasket_ID | Book_ISBN          | CountSBB |
+-------------------+--------------------+---------+
|          20142578 | 978-1-60309-513-6  |       3 |
|          20179876 | 978-1-60309-505-1  |       6 |
|          20198765 | 978-1-60309-504-4  |       1 |
|          20200102 | 978-1-60309-514-3  |       4 |
|          20209876 | 978-1-60309-344-6  |      12 |
|          20210938 | 978-1-60309-038-4  |      14 |
|          20210987 | 978-1-60309-505-1  |      23 |
|          20220103 | 978-1-60309-492-4  |       3 |
|          20220216 | 978-1-60309-513-6  |       2 |
|          20220308 | 978-1-891830-02-0  |       2 |
|          20221225 | 978-1-60309-454-2  |       7 |
|          20221229 | 978-1-60309-502-0  |       4 |
+-------------------+--------------------+---------+
12 rows in set (0.00 sec)
```

SELECT * FROM Warehouse;

```
mysql> SELECT * FROM Warehouse;
+----------------+----------------+-----------------+----------------------------------------------------------+
| Warehouse_Code | Bookstore_Code | Warehouse_Phone | Warehouse_Address                                        |
+----------------+----------------+-----------------+----------------------------------------------------------+
|         401548 | BS004          | 02-4937474      | Lot 62, Jalan Abdullah 3/7, 43000 Kajang, Selangor       |
|         428170 | BS009          | 05-3427398      | Lot 2A, Jalan Perpaduan,  59513 Kuala Lumpur, Kuala Lumpur|
|         432133 | BS001          | 03-3257209      | Lot 345, Jalan Paramesara 1/4, 71800 Nilai, Negeri Sembilan|
|         432750 | BS006          | 06-3242788      | Lot 152, Jalan Bangsar, 52100 Kepong, Kuala Lumpur       |
|         437910 | BS005          | 01-9832424      | Lot 262, Jalan Arif 3/8, 46200 Petaling Jaya, Selangor   |
|         443618 | BS004          | 01-8725892      | Lot 274, Jalan Bukit Besi, 50160 Titiwangsa, Kuala Lumpur|
|         450929 | BS007          | 09-3423428      | Lot 7A, Jalan Perak, 46200 Petaling Jaya, Selangor       |
|         455685 | BS008          | 07-3444783      | Lot D35, Jalan Minah, 80200 Johor Bharu, Johor           |
|         487411 | BS003          | 03-9742389      | Lot 25, Jalan Putera 2/9, 85000 Segamat, Johor           |
|         489320 | BS008          | 09-4238253      | Lot 5A, Jalan Abdul, 43000 Kajang, Selangor              |
|         493110 | BS002          | 03-4837264      | Lot 98, Jalan Desa, 50000 Kuala Lumpur, Kuala Lumpur     |
|         495979 | BS010          | 05-4234793      | Lot 34, Jalan Permai S1, 40172 Shah Alam, Selangor       |
+----------------+----------------+-----------------+----------------------------------------------------------+
12 rows in set (0.00 sec)
```

SELECT * FROM Warehouse_Book;

```
mysql> SELECT * FROM Warehouse_Book;
+----------------+-------------------+---------+
| Warehouse_Code | Book_ISBN         | CountWB |
+----------------+-------------------+---------+
|         401548 | 978-1-60309-513-6 |    2368 |
|         428170 | 978-1-60309-504-4 |    5521 |
|         432133 | 978-1-60309-502-0 |    4444 |
|         432750 | 978-1-60309-038-4 |    4354 |
|         437910 | 978-1-60309-514-3 |    8763 |
|         443618 | 978-1-60309-513-6 |    9023 |
|         450929 | 978-1-60309-505-1 |    2489 |
|         455685 | 978-1-60309-344-6 |    6543 |
|         487411 | 978-1-60309-492-4 |    3465 |
|         489320 | 978-1-60309-038-4 |    1234 |
|         493110 | 978-1-60309-454-2 |    3245 |
|         495979 | 978-1-891830-02-0 |    4692 |
+----------------+-------------------+---------+
12 rows in set (0.00 sec)
```

SELECT * FROM Staff;

```
mysql> SELECT * FROM Staff;
+----------+----------------+------------------------+--------------+-----------------------------------+
| Staff_ID | Bookstore_Code | Staff_Name             | Staff_Mobile | Staff_Email                       |
+----------+----------------+------------------------+--------------+-----------------------------------+
| ST007    | BS008          | Dharshen a/l Danny     | 06-822 4572  | dharshenaldanny@gmail.com         |
| ST023    | BS001          | Grace Lim Zi Wei       | 01-9956 4992 | gracelimziwei@gmail.com           |
| ST120    | BS003          | Khairul bin Abdul Rahman| 04-879 6400 | khairulbinabdulrahman@gmail.com   |
| ST189    | BS010          | David Lau Jing Luen     | 06-773 2200 | davidlaujingleun@gmail.com        |
| ST203    | BS004          | Christine Chong        | 03-990 0214  | christinechong@gmail.com          |
| ST222    | BS002          | Alan Ching Khai Zhe    | 03-723 8872  | alanchingkhaizhe@gmail.com        |
| ST270    | BS005          | Rosmah binti Hema      | 03-123 8493  | rosmahbintihema@gmail.com         |
| ST466    | BS009          | Lim Pek Sheng          | 07-921 0293  | limpeksheng@gmail.com             |
| ST556    | BS006          | Syed Saddiq bin        | 03-829 9923  | syedsaddiqbinabdul@gmail.com      |
| ST640    | BS004          | Danish a/l Thurgashini | 07-992 0183  | danishalthurgashini@gmail.com     |
| ST762    | BS007          | Ken Fong Ka Quan       | 07-847 0327  | kenfongkaquan@gmail.com           |
| ST822    | BS008          | Daniel Tan             | 03-280 0293  | danieltan@gamil.com               |
+----------+----------------+------------------------+--------------+-----------------------------------+
12 rows in set (0.00 sec)
```

SELECT * FROM Prize;

```
mysql> SELECT * FROM Prize;
+----------+----------------+----------+----------------------+
| Prize_ID | Participant_ID | Staff_ID | Prize_Name           |
+----------+----------------+----------+----------------------+
| PR001    | PT001          | ST023    | Book Voucher RM50    |
| PR002    | PT002          | ST222    | Tng Voucher RM150    |
| PR003    | PT003          | ST120    | Book Voucher RM150   |
| PR004    | PT004          | ST640    | Tng Voucher RM120    |
| PR005    | PT005          | ST270    | GrabPay Voucher RM100|
| PR006    | PT006          | ST556    | Lazada Voucher RM100 |
| PR007    | PT007          | ST762    | Shopee Voucher RM120 |
| PR008    | PT008          | ST007    | Tng Voucher RM120    |
| PR009    | PT209          | ST466    | Shopee Voucher RM200 |
| PR010    | PT010          | ST189    | Book Voucher RM200   |
| PR011    | PT011          | ST203    | Lazada Voucher RM120 |
| PR012    | PT212          | ST822    | Tng Voucher RM120    |
+----------+----------------+----------+----------------------+
12 rows in set (0.00 sec)
```

28

SELECT * FROM Score;

```
mysql> SELECT * FROM Score;
+----------+----------------+----------------+----------+-------------+
| Score_ID | Participant_ID | Competition_ID | Prize_ID | Score_Total |
+----------+----------------+----------------+----------+-------------+
| SD0007   | PT001          | C0001          | PR001    |         645 |
| SD0070   | PT011          | C0053          | PR011    |         895 |
| SD0110   | PT004          | C0034          | PR004    |         452 |
| SD0208   | PT002          | C0012          | PR002    |         756 |
| SD0217   | PT005          | C0035          | PR005    |         654 |
| SD0612   | PT010          | C0046          | PR010    |         657 |
| SD0713   | PT007          | C0037          | PR007    |         425 |
| SD0820   | PT212          | C0060          | PR012    |         666 |
| SD2012   | PT006          | C0036          | PR006    |         999 |
| SD3009   | PT003          | C0023          | PR003    |         858 |
| SD5015   | PT209          | C0044          | PR009    |         756 |
| SD9014   | PT008          | C0042          | PR008    |         534 |
+----------+----------------+----------------+----------+-------------+
12 rows in set (0.00 sec)
```

Update

1. Update the price of the book to 16.95 based on Book_ISBN='978-1-60309-038-4'.

UPDATE Book SET Price = 16.95
WHERE Book_ISBN = '978-1-60309-038-4';

```
mysql> UPDATE Book
    -> SET Price = 16.95
    -> WHERE Book_ISBN = '978-1-60309-038-4';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

SELECT * FROM Book;

```
mysql> SELECT * FROM Book;
+-------------------+-----------+--------------+-----------+--------------------------------------+-------+
| Book_ISBN         | Author_ID | Publisher_ID | Book_Year | Book_Title                           | Price |
+-------------------+-----------+--------------+-----------+--------------------------------------+-------+
| 978-1-60309-038-4 | A001      | P0006        |      2008 | Twinkle Power                        | 16.95 |
| 978-1-60309-344-6 | A009      | P0004        |      1990 | Lost Girls                           | 49.99 |
| 978-1-60309-454-2 | A002      | P0007        |      2003 | The Delicacy                         | 24.99 |
| 978-1-60309-492-4 | A004      | P0003        |      2022 | Doughnuts and Doom                   | 14.99 |
| 978-1-60309-502-0 | A008      | P0004        |      2002 | Animal Stories                       | 19.99 |
| 978-1-60309-504-4 | A009      | P0008        |      1991 | The Graphic Novel                    | 14.95 |
| 978-1-60309-505-1 | A005      | P0002        |      1995 | The League of Extraordinary Gentlemen| 29.95 |
| 978-1-60309-513-6 | A007      | P0010        |      2017 | Highwater Pants                      | 14.59 |
| 978-1-60309-514-3 | A003      | P0004        |      2018 | Under the River                      | 24.99 |
| 978-1-891830-02-0 | A010      | P0009        |      2006 | A Comic Strip Biography              | 39.99 |
+-------------------+-----------+--------------+-----------+--------------------------------------+-------+
10 rows in set (0.00 sec)
```

2. Update the phone number of the staff to '03-7710 0110' based on Staff_ID='ST023'.

UPDATE Staff
SET Staff_Mobile= '03-7710 0110' WHERE Staff_ID='ST023';

```
mysql> UPDATE Book
    -> SET Price = 16.95
    -> WHERE Book_ISBN = '978-1-60309-038-4';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

SELECT * FROM Book;

```
mysql> SELECT * FROM Book;
+-------------------+-----------+--------------+-----------+--------------------------------------+-------+
| Book_ISBN         | Author_ID | Publisher_ID | Book_Year | Book_Title                           | Price |
+-------------------+-----------+--------------+-----------+--------------------------------------+-------+
| 978-1-60309-038-4 | A001      | P0006        |      2008 | Twinkle Power                        | 16.95 |
| 978-1-60309-344-6 | A009      | P0004        |      1990 | Lost Girls                           | 49.99 |
| 978-1-60309-454-2 | A002      | P0007        |      2003 | The Delicacy                         | 24.99 |
| 978-1-60309-492-4 | A004      | P0003        |      2022 | Doughnuts and Doom                   | 14.99 |
| 978-1-60309-502-0 | A008      | P0004        |      2002 | Animal Stories                       | 19.99 |
| 978-1-60309-504-4 | A009      | P0008        |      1991 | The Graphic Novel                    | 14.95 |
| 978-1-60309-505-1 | A005      | P0002        |      1995 | The League of Extraordinary Gentlemen| 29.95 |
| 978-1-60309-513-6 | A007      | P0010        |      2017 | Highwater Pants                      | 14.59 |
| 978-1-60309-514-3 | A003      | P0004        |      2018 | Under the River                      | 24.99 |
| 978-1-891830-02-0 | A010      | P0009        |      2006 | A Comic Strip Biography              | 39.99 |
+-------------------+-----------+--------------+-----------+--------------------------------------+-------+
10 rows in set (0.00 sec)
```

Delete

1. Delete all information about the publisher with Publisher_ID='P0005'.

DELETE FROM Publisher WHERE Publisher_ID='P0005';

```
mysql> DELETE FROM Publisher
    -> WHERE Publisher_ID='P0005';
Query OK, 1 row affected (0.01 sec)
```

SELECT * FROM Publisher;
Before:

```
mysql> SELECT * FROM Publisher;
+-------------+---------------------------+---------------------------------------------------------------------------+----------------+
| Publisher_ID | Publisher_Name            | Publisher_Address                                                         | Publisher_Phone |
+-------------+---------------------------+---------------------------------------------------------------------------+----------------+
| P0001       | Oxferd Fajar Sdn Bhd      | 999, Jalan Pemaju, 40150 Shah Alam, Selangor                              | 03-5629400      |
| P0002       | GoldFish Book Sdn Bhd     | No. 360, Lintang Macallum, 10300 George Town, Pulau Pinang                | 09-9994424      |
| P0003       | Hup Seng Book Sdn Bhd     | 5529, Jalan Marif 2/5, 59000 Bangsar, Selangor                            | 01-4248892      |
| P0004       | Kanying Publication Sdn Bhd | 35, Jalan Industri Kidamai,43000 Kajang, Selangor                       | 04-2423949      |
| P0005       | Navinden Pubication Sdn Bhd | 73, Jalan Maarof, Bangsar, 59000 Kuala Lumpur, Kuala Lumpur             | 03-2235490      |
| P0006       | Rosmah Book Sdn Bhd       | No. 35, Block C5, Jalan Parameswara, 47301 Petaling Jaya, Selangor        | 06-8795292      |
| P0007       | Pernebit UM               | C4-26, Bukit Bakar Industrial Area, 52100 Kepong, Kuala Lumpur            | 08-4837897      |
| P0008       | Pelangor Pubishing Group  | Lot 22, Taman Perindustrian Ayer, 80250, Johor Bharu, Johor               | 07-0217474      |
| P0009       | Sental Press Sdn Bhd      | B-4-C, Jalan Kenari 5, Alam Damai, 56000 Cheras, Kuala Lumpur             | 03-4258393      |
| P0010       | Ali Publication Sdn Bhd   | 58, Jalan Bukit 24/5, Seksyen 51 Petaling Jaya, 46200 Petaling Jaya, Selangor | 02-2423490  |
+-------------+---------------------------+---------------------------------------------------------------------------+----------------+
10 rows in set (0.00 sec)
```

After:

```
mysql> SELECT * FROM Publisher;
+-------------+---------------------------+---------------------------------------------------------------------------+----------------+
| Publisher_ID | Publisher_Name            | Publisher_Address                                                         | Publisher_Phone |
+-------------+---------------------------+---------------------------------------------------------------------------+----------------+
| P0001       | Oxferd Fajar Sdn Bhd      | 999, Jalan Pemaju, 40150 Shah Alam, Selangor                              | 03-5629400      |
| P0002       | GoldFish Book Sdn Bhd     | No. 360, Lintang Macallum, 10300 George Town, Pulau Pinang                | 09-9994424      |
| P0003       | Hup Seng Book Sdn Bhd     | 5529, Jalan Marif 2/5, 59000 Bangsar, Selangor                            | 01-4248892      |
| P0004       | Kanying Publication Sdn Bhd | 35, Jalan Industri Kidamai,43000 Kajang, Selangor                       | 04-2423949      |
| P0006       | Rosmah Book Sdn Bhd       | No. 35, Block C5, Jalan Parameswara, 47301 Petaling Jaya, Selangor        | 06-8795292      |
| P0007       | Pernebit UM               | C4-26, Bukit Bakar Industrial Area, 52100 Kepong, Kuala Lumpur            | 08-4837897      |
| P0008       | Pelangor Pubishing Group  | Lot 22, Taman Perindustrian Ayer, 80250, Johor Bharu, Johor               | 07-0217474      |
| P0009       | Sental Press Sdn Bhd      | B-4-C, Jalan Kenari 5, Alam Damai, 56000 Cheras, Kuala Lumpur             | 03-4258393      |
| P0010       | Ali Publication Sdn Bhd   | 58, Jalan Bukit 24/5, Seksyen 51 Petaling Jaya, 46200 Petaling Jaya, Selangor | 02-2423490  |
+-------------+---------------------------+---------------------------------------------------------------------------+----------------+
9 rows in set (0.00 sec)
```

● WHERE/HAVING/GROUP BY/AND/OR/ BETWEEN / LIKE/ORDER BY

1) WHERE

Display all information from the table Book with the Publisher_ID='P0004'.
SELECT * FROM Book
WHERE Publisher_ID='P0004';

```
mysql> SELECT * FROM Book
    -> WHERE Publisher_ID='P0004';
+----------------+-----------+--------------+-----------+-----------------+-------+
| Book_ISBN      | Author_ID | Publisher_ID | Book_Year | Title           | Price |
+----------------+-----------+--------------+-----------+-----------------+-------+
| 978-1-60309-344-6 | A009   | P0004        |      1990 | Lost Girls      | 49.99 |
| 978-1-60309-502-0 | A008   | P0004        |      2002 | Animal Stories  | 19.99 |
| 978-1-60309-514-3 | A003   | P0004        |      2018 | Under the River | 24.99 |
+----------------+-----------+--------------+-----------+-----------------+-------+
3 rows in set (0.01 sec)
```

2) HAVING

Display Customer_Email, Customer_Name and the total number of books the customer added to the shopping basket, with the condition the total number of books the customer added to the shopping basket is greater than 10.

SELECT C.Customer_Email, Customer_Name, SUM(CountSBB) AS 'Total Book Purchased' FROM Customer AS C, ShoppingBasket AS S, ShoppingBasket_Book AS B
WHERE C.Customer_Email=S.Customer_Email AND S.ShoppingBasket_ID=B.ShoppingBasket_ID
GROUP BY C.Customer_Email
HAVING SUM(CountSBB) > 10;

```
mysql> SELECT C.Customer_Email, Customer_Name, SUM(CountSBB) AS 'Total Book Purchased'
    -> FROM Customer AS C, ShoppingBasket AS S , ShoppingBasket_Book AS B
    -> WHERE C.Customer_Email=S.Customer_Email
    -> AND S.ShoppingBasket_ID=B.ShoppingBasket_ID
    -> GROUP BY C.Customer_Email
    -> HAVING SUM(CountSBB) > 10;
+---------------------+--------------------------+----------------------+
| Customer_Email      | Customer_Name            | Total Book Purchased |
+---------------------+--------------------------+----------------------+
| armiraaaa47@gmail.com | Nur Armira binti Syed Fairuz |               16 |
| chendp007@gmail.com | Chen Dong Pin            |                   14 |
| syasya71@gmail.com  | Syafina binti Fadillah   |                   23 |
+---------------------+--------------------------+----------------------+
3 rows in set (0.00 sec)
```

3) GROUP BY

Retrieve Publisher_ID, Publisher_Name and the number of types of books published by the publisher, group this by Publisher_ID.

SELECT P.Publisher_ID, Publisher_Name, Count(Book_Title) AS 'Number of published books purchased'
FROM Publisher as P, Book
WHERE P.Publisher_ID=Book.Publisher_ID GROUP BY P.Publisher_ID;

```
mysql> SELECT P.Publisher_ID, Publisher_Name, Count(Book_Title) AS 'Number of published books purchased'
    -> FROM Publisher as P, Book
    -> WHERE P.Publisher_ID=Book.Publisher_ID
    -> GROUP BY P.Publisher_ID;
+--------------+------------------------+-------------------------------------+
| Publisher_ID | Publisher_Name         | Number of published books purchased |
+--------------+------------------------+-------------------------------------+
| P0002        | GoldFish Book Sdn Bhd  |                                   1 |
| P0003        | Hup Seng Book Sdn Bhd  |                                   1 |
| P0004        | Kanying Publication Sdn Bhd |                              3 |
| P0006        | Rosmah Book Sdn Bhd    |                                   1 |
| P0007        | Pernebit UM            |                                   1 |
| P0008        | Pelangor Pubishing Group |                                 1 |
| P0009        | Sental Press Sdn Bhd   |                                   1 |
| P0010        | Ali Publication Sdn Bhd |                                  1 |
+--------------+------------------------+-------------------------------------+
8 rows in set (0.00 sec)
```

31

4) AND

Display all information from the table book with the book_year greater than 2000 and the price of the book greater than 20.00.

SELECT * FROM Book
WHERE Book_Year>2000 AND Price>20.00;

```
mysql> SELECT * FROM Book
    -> WHERE Book_Year>2000
    -> AND Price>20.00;
+------------------+-----------+--------------+-----------+-------------------------+-------+
| Book_ISBN        | Author_ID | Publisher_ID | Book_Year | Title                   | Price |
+------------------+-----------+--------------+-----------+-------------------------+-------+
| 978-1-60309-454-2 | A002     | P0007        |      2003 | The Delicacy            | 24.99 |
| 978-1-60309-514-3 | A003     | P0004        |      2018 | Under the River         | 24.99 |
| 978-1-891830-02-0 | A010     | P0009        |      2006 | A Comic Strip Biography | 39.99 |
+------------------+-----------+--------------+-----------+-------------------------+-------+
3 rows in set (0.00 sec)
```

5) BETWEEN

Display the Book_ISBN, the number of book in storage and the title of the books,with the condition the number of book in storage is between 4000 and 8000.

SELECT Book.Book_ISBN, CountWB AS 'Number of Book in Storage',Book_Title FROM Book,
Warehouse_Book AS W
WHERE Book.Book_ISBN=W.Book_ISBN AND CountWB BETWEEN 4000 AND 8000;

```
mysql> SELECT Book.Book_ISBN, CountWB AS 'Number of Book in Storage',Book_Title
    -> FROM Book ,Warehouse_Book AS W
    -> WHERE Book.Book_ISBN=W.Book_ISBN
    -> AND CountWB BETWEEN 4000 AND 8000;
+------------------+---------------------------+-------------------------+
| Book_ISBN        | Number of Book in Storage | Book_Title              |
+------------------+---------------------------+-------------------------+
| 978-1-60309-504-4 |                      5521 | The Graphic Novel       |
| 978-1-60309-502-0 |                      4444 | Animal Stories          |
| 978-1-60309-038-4 |                      4354 | Twinkle Power           |
| 978-1-60309-344-6 |                      6543 | Lost Girls              |
| 978-1-891830-02-0 |                      4692 | A Comic Strip Biography |
+------------------+---------------------------+-------------------------+
5 rows in set (0.00 sec)
```

6) OR

Display all information from the table competition with the condition the competition_date is in October or December and arrange the information according to the competition_date in ascending order.

SELECT * FROM Competition
WHERE Competition_Date LIKE '%-10-%' OR Competition_Date LIKE '%-12-%' ORDER BY
Competition_Date ASC;

```
mysql> SELECT * FROM Competition
    -> WHERE Competition_Date LIKE '%-10-%'
    -> OR Competition_Date LIKE '%-12-%'
    -> ORDER BY Competition_Date ASC;
+----------------+--------------------------------------------+------------------+
| Competition_ID | Competition_Type                           | Competition_Date |
+----------------+--------------------------------------------+------------------+
| C0060          | Bahasa Melayu Challenge Reading Competition | 2022-10-20       |
| C0012          | Fairy Story Telling                        | 2022-10-23       |
| C0023          | Poetry Reading                             | 2022-10-24       |
| C0053          | Hokkien Challenge Reading Competition       | 2022-12-12       |
| C0042          | Arabic Challenge Reading Competition        | 2022-12-20       |
| C0044          | Cantonese Challenge Reading Competition     | 2022-12-21       |
| C0046          | English Challenge Reading Competition       | 2022-12-22       |
+----------------+--------------------------------------------+------------------+
7 rows in set (0.00 sec)
```

7) LIKE

Display all the information from the table prize where the Prize_Name contains the word "tng".

SELECT * FROM Prize
WHERE Prize_Name LIKE 'Tng%';

```
mysql> SELECT * FROM Prize
    -> WHERE Prize_Name LIKE 'Tng%';
+----------+----------------+----------+------------------+
| Prize_ID | Participant_ID | Staff_ID | Prize_Name       |
+----------+----------------+----------+------------------+
| PR002    | PT002          | ST222    | Tng Voucher RM150 |
| PR004    | PT004          | ST640    | Tng Voucher RM120 |
| PR008    | PT008          | ST007    | Tng Voucher RM120 |
| PR012    | PT212          | ST822    | Tng Voucher RM120 |
+----------+----------------+----------+------------------+
4 rows in set (0.00 sec)
```

8) ORDER BY

Display all information from the table warehouse and arrange the information according to the Bookstore_Code and Warehouse_Code in ascending order.

SELECT * FROM Warehouse
ORDER BY Bookstore_Code,Warehouse_Code ASC;

```
mysql> SELECT * FROM Warehouse
    -> ORDER BY Bookstore_Code,Warehouse_Code ASC;
+----------------+----------------+-----------------+-----------------------------------------------------------+
| Warehouse_Code | Bookstore_Code | Warehouse_Phone | Warehouse_Address                                         |
+----------------+----------------+-----------------+-----------------------------------------------------------+
|         432133 | BS001          | 03-3257209      | Lot 345, Jalan Paramesara 1/4, 71800 Nilai, Negeri Sembilan |
|         493110 | BS002          | 03-4837264      | Lot 98, Jalan Desa, 50000 Kuala Lumpur, Kuala Lumpur      |
|         487411 | BS003          | 03-9742389      | Lot 25, Jalan Putera 2/9, 85000 Segamat, Johor            |
|         401548 | BS004          | 02-4937474      | Lot 62, Jalan Abdullah 3/7, 43000 Kajang, Selangor        |
|         443618 | BS004          | 01-8725892      | Lot 274, Jalan Bukit Besi, 50160 Titiwangsa, Kuala Lumpur |
|         437910 | BS005          | 01-9832424      | Lot 262, Jalan Arif 3/8, 46200 Petaling Jaya, Selangor    |
|         432750 | BS006          | 06-3242788      | Lot 152, Jalan Bangsar, 52100 Kepong, Kuala Lumpur        |
|         450929 | BS007          | 09-3423428      | Lot 7A, Jalan Perak, 46200 Petaling Jaya, Selangor        |
|         455685 | BS008          | 07-3444783      | Lot D35, Jalan Minah, 80200 Johor Bharu, Johor            |
|         489320 | BS008          | 09-4238253      | Lot 5A, Jalan Abdul, 43000 Kajang, Selangor               |
|         428170 | BS009          | 05-3427398      | Lot 2A, Jalan Perpaduan,  59513 Kuala Lumpur, Kuala Lumpur |
|         495979 | BS010          | 05-4234793      | Lot 34, Jalan Permai S1, 40172 Shah Alam, Selangor        |
+----------------+----------------+-----------------+-----------------------------------------------------------+
12 rows in set (0.00 sec)
```

33

● **AGGREGATE FUNCTION: MIN, MAX, AVG, COUNT, SUM**

1) MIN

Display Participant_ID, Participant_Name, Competition_ID, Competition_Type and Score_Total with the condition the score_total is the smallest.

SELECT S.Participant_ID,Participant_Name,S.Competition_ID, Competition_Type,Score_Total FROM Participant AS P,Competition AS C, Score AS S
WHERE   P.Participant_ID=S.Participant_ID   AND   C.Competition_ID=S.Competition_ID   AND Score_Total = (
SELECT MIN(Score_Total) FROM Score);

```
mysql> SELECT S.Participant_ID,Participant_Name,S.Competition_ID, Competition_Type,Score_Total
    -> FROM Participant AS P,Competition AS C, Score AS S
    -> WHERE P.Participant_ID=S.Participant_ID
    -> AND C.Competition_ID=S.Competition_ID
    -> AND Score_Total =(
    -> SELECT MIN(Score_Total) FROM Score);
+----------------+---------------------------------+----------------+-----------------------------------+-------------+
| Participant_ID | Participant_Name                | Competition_ID | Competition_Type                  | Score_Total |
+----------------+---------------------------------+----------------+-----------------------------------+-------------+
| PT007          | Nurul Farah Binti Abdulah Syabir | C0037          | Chinese Challenge Reading Competition | 425         |
+----------------+---------------------------------+----------------+-----------------------------------+-------------+
1 row in set (0.00 sec)
```

2) MAX

Display all information about the latest book.

SELECT * FROM Book
WHERE Book_Year=(
SELECT MAX(Book_Year) FROM Book);

```
mysql> SELECT * FROM Book
    -> WHERE Book_Year=(
    -> SELECT MAX(Book_Year) FROM Book);
+------------------+-----------+--------------+-----------+--------------------+-------+
| Book_ISBN        | Author_ID | Publisher_ID | Book_Year | Title              | Price |
+------------------+-----------+--------------+-----------+--------------------+-------+
| 978-1-60309-492-4 | A004     | P0003        |      2022 | Doughnuts and Doom | 14.99 |
+------------------+-----------+--------------+-----------+--------------------+-------+
1 row in set (0.00 sec)
```

3) AVG

Display the average total of the scores for the whole competition.

SELECT AVG(Score_Total) FROM Score;

```
mysql> SELECT AVG(Score_Total)
    ->  FROM Score;
+------------------+
| AVG(Score_Total) |
+------------------+
|         691.4167 |
+------------------+
1 row in set (0.00 sec)
```

34

4) COUNT

Count the number of the warehouses for each bookstore.

SELECT Bookstore_Code, COUNT(Warehouse_Code) AS 'Number of Warehouse owned' FROM Warehouse
GROUP BY Bookstore_Code;

```
mysql> SELECT Bookstore_Code, COUNT(Warehouse_Code) AS 'Number of Warehouse owned'
    -> FROM Warehouse
    -> GROUP BY Bookstore_Code;
+----------------+---------------------------+
| Bookstore_Code | Number of Warehouse owned |
+----------------+---------------------------+
| BS001          |                         1 |
| BS002          |                         1 |
| BS003          |                         1 |
| BS004          |                         2 |
| BS005          |                         1 |
| BS006          |                         1 |
| BS007          |                         1 |
| BS008          |                         2 |
| BS009          |                         1 |
| BS010          |                         1 |
+----------------+---------------------------+
10 rows in set (0.02 sec)
```

Count the number of staff for each bookstore.

SELECT Bookstore_Code,COUNT(Staff_ID) AS 'Number of Staff sent to help manage the competition'
FROM Staff
GROUP BY Bookstore_Code;

```
mysql> SELECT Bookstore_Code,COUNT(Staff_ID) AS 'Number of Staff sent to help manage the competition'
    -> FROM Staff
    -> GROUP BY Bookstore_Code;
+----------------+-----------------------------------------------------+
| Bookstore_Code | Number of Staff sent to help manage the competition |
+----------------+-----------------------------------------------------+
| BS001          |                                                   1 |
| BS002          |                                                   1 |
| BS003          |                                                   1 |
| BS004          |                                                   2 |
| BS005          |                                                   1 |
| BS006          |                                                   1 |
| BS007          |                                                   1 |
| BS008          |                                                   2 |
| BS009          |                                                   1 |
| BS010          |                                                   1 |
+----------------+-----------------------------------------------------+
10 rows in set (0.01 sec)
```
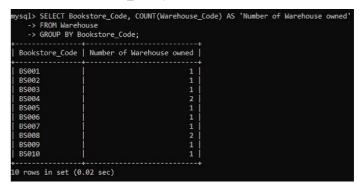
5) SUM

Display Book_ISBN, Title and the total number of books in stock, group this by Book_ISBN.

SELECT B.Book_ISBN, Book_Title, SUM(CountWB) AS 'Stock Quantity' FROM Warehouse_Book AS W, Book AS B
WHERE W.Book_ISBN=B.Book_ISBN GROUP BY B.Book_ISBN;

```
mysql> SELECT B.Book_ISBN, Book_Title, SUM(CountWB) AS 'Stock Quantity'
    -> FROM Warehouse_Book AS W, Book AS B
    -> WHERE W.Book_ISBN=B.Book_ISBN
    -> GROUP BY B.Book_ISBN;
+-----------------+-------------------------------------+----------------+
| Book_ISBN       | Book_Title                          | Stock Quantity |
+-----------------+-------------------------------------+----------------+
| 978-1-60309-038-4 | Twinkle Power                     |           5588 |
| 978-1-60309-344-6 | Lost Girls                        |           6543 |
| 978-1-60309-454-2 | The Delicacy                      |           3245 |
| 978-1-60309-492-4 | Doughnuts and Doom                |           3465 |
| 978-1-60309-502-0 | Animal Stories                    |           4444 |
| 978-1-60309-504-4 | The Graphic Novel                 |           5521 |
| 978-1-60309-505-1 | The League of Extraordinary Gentlemen |       2489 |
| 978-1-60309-513-6 | Highwater Pants                   |          11391 |
| 978-1-60309-514-3 | Under the River                   |           8763 |
| 978-1-891830-02-0 | A Comic Strip Biography           |           4692 |
+-----------------+-------------------------------------+----------------+
10 rows in set (0.00 sec)
```

35

● **JOIN TABLES for at least 2 and MORE TABLES (complex queries)**

1) JOIN TABLE (2 TABLES)

Display all the Author_ID, Author _Name, Book_Year and Title of the book.

SELECT A.Author_ID,Author_Name,Book_Year, Book_Title FROM Author AS A
LEFT JOIN Book ON A.Author_ID=Book.Author_ID;

```
mysql> SELECT A.Author_ID,Author_Name,Book_Year, Book_Title
    -> FROM Author AS A
    -> LEFT JOIN Book ON A.Author_ID=Book.Author_ID;
+-----------+----------------------------+-----------+------------------------------------+
| Author_ID | Author_Name                | Book_Year | Book_Title                         |
+-----------+----------------------------+-----------+------------------------------------+
| A001      | Yew Kwang Hui              |      2008 | Twinkle Power                      |
| A002      | Samsudin Abdullah bin Fakri |     2003 | The Delicacy                       |
| A003      | Chetan A/L Bangla          |      2018 | Under the River                    |
| A004      | Grace Wong Jie Hui         |      2022 | Doughnuts and Doom                 |
| A005      | Siti Khadijah binti Kamal  |      1995 | The League of Extraordinary Gentlemen |
| A006      | Amrita A/P Pritia          |      NULL | NULL                               |
| A007      | Uthaya A/L Sankar          |      2017 | Highwater Pants                    |
| A008      | Lim Kit Ching              |      2002 | Animal Stories                     |
| A009      | Sarah Rosmah binti Abdullah |     1990 | Lost Girls                         |
| A009      | Sarah Rosmah binti Abdullah |     1991 | The Graphic Novel                  |
| A010      | Ali Abdulah bin Ahmad      |      2006 | A Comic Strip Biography            |
+-----------+----------------------------+-----------+------------------------------------+
11 rows in set (0.00 sec)
```
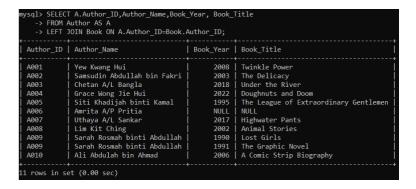
2) JOIN TABLE (3 TABLES)

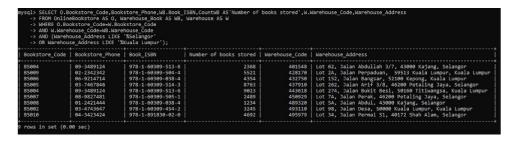**Display Bookstore_Code,Bookstore_Phone,Book_ISBN,Warehouse_Code, Warehouse_Address and the number of book in storage with the condition the warehouse address is in Selangor or Kuala Lumpur.**

SELECT O.Bookstore_Code,Bookstore_Phone,WB.Book_ISBN,CountWB AS 'Number of books stored',W.Warehouse_Code,Warehouse_Address
FROM OnlineBookstore AS O, Warehouse_Book AS WB, Warehouse AS W WHERE O.Bookstore_Code=W.Bookstore_Code
AND W.Warehouse_Code=WB.Warehouse_Code AND (Warehouse_Address LIKE '%Selangor'
OR Warehouse_Address LIKE '%Kuala Lumpur');

```
mysql> SELECT O.Bookstore_Code,Bookstore_Phone,WB.Book_ISBN,CountWB AS'Number of books stored',W.Warehouse_Code,Warehouse_Address
    -> FROM OnlineBookstore AS O, Warehouse_Book AS WB, Warehouse AS W
    -> WHERE O.Bookstore_Code=W.Bookstore_Code
    -> AND W.Warehouse_Code=WB.Warehouse_Code
    -> AND (Warehouse_Address LIKE '%Selangor'
    -> OR Warehouse_Address LIKE '%Kuala Lumpur');
+----------------+-----------------+-------------------+-----------------------+----------------+-----------------------------------------------------+
| Bookstore_Code | Bookstore_Phone | Book_ISBN         | Number of books stored | Warehouse_Code | Warehouse_Address                                   |
+----------------+-----------------+-------------------+-----------------------+----------------+-----------------------------------------------------+
| BS004          | 09-3489124      | 978-1-60309-513-6 |                  2368 |         401548 | Lot 62, Jalan Abdullah 3/7, 43000 Kajang, Selangor  |
| BS009          | 02-2342342      | 978-1-60309-504-4 |                  5521 |         428170 | Lot 2A, Jalan Perpaduan,  59513 Kuala Lumpur, Kuala Lumpur |
| BS006          | 06-9214714      | 978-1-60309-038-4 |                  4354 |         432750 | Lot 152, Jalan Bangsar, 52100 Kepong, Kuala Lumpur  |
| BS005          | 03-7467846      | 978-1-60309-514-3 |                  8763 |         437910 | Lot 262, Jalan Arif 3/8, 46200 Petaling Jaya, Selangor |
| BS004          | 09-3489124      | 978-1-60309-513-6 |                  9023 |         443618 | Lot 274, Jalan Bukit Besi, 50160 Titiwangsa, Kuala Lumpur |
| BS007          | 08-9827481      | 978-1-60309-505-1 |                  2489 |         450029 | Lot 7A, Jalan Perak, 46200 Petaling Jaya, Selangor  |
| BS008          | 01-2421444      | 978-1-60309-038-4 |                  1234 |         489320 | Lot 5A, Jalan Abdul, 43000 Kajang, Selangor         |
| BS002          | 03-4743647      | 978-1-60309-454-2 |                  3245 |         493110 | Lot 98, Jalan Desa, 50000 Kuala Lumpur, Kuala Lumpur |
| BS010          | 04-3423424      | 978-1-891830-02-0 |                  4692 |         495979 | Lot 34, Jalan Permai S1, 40172 Shah Alam, Selangor  |
+----------------+-----------------+-------------------+-----------------------+----------------+-----------------------------------------------------+
9 rows in set (0.00 sec)
```

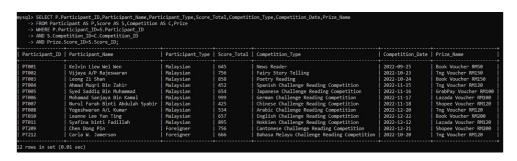**3) JOIN TABLE (4 TABLES)**

Retrieve Participant_ID, Participant_Name, Participant_Type,Score_Total,Competition_Type, Competition_Date and Prize_Name.

SELECT P.Participant_ID,Participant_Name,Participant_Type,Score_Total,
Competition_Type,Competition_Date,Prize_Name
FROM Participant AS P,Score AS S,Competition AS C,Prize WHERE
P.Participant_ID=S.Participant_ID
AND S.Competition_ID=C.Competition_ID AND Prize.Prize_ID=S.Prize_ID;

```
mysql> SELECT P.Participant_ID,Participant_Name,Participant_Type,Score_Total,Competition_Type,Competition_Date,Prize_Name
    -> FROM Participant AS P,Score AS S,Competition AS C,Prize
    -> WHERE P.Participant_ID=S.Participant_ID
    -> AND S.Competition_ID=C.Competition_ID
    -> AND Prize.Score_ID=S.Score_ID;
+----------------+---------------------------------+------------------+-------------+----------------------------------------------+------------------+----------------------+
| Participant_ID | Participant_Name                | Participant_Type | Score_Total | Competition_Type                             | Competition_Date | Prize_Name           |
+----------------+---------------------------------+------------------+-------------+----------------------------------------------+------------------+----------------------+
| PT001          | Kelvin Liew Wei Wen             | Malaysian        | 645         | News Reader                                  | 2022-09-25       | Book Voucher RM50    |
| PT002          | Vijaya A/P Rajeswaran           | Malaysian        | 756         | Fairy Story Telling                          | 2022-10-23       | Tng Voucher RM150    |
| PT003          | Leong Zi Shan                   | Malaysian        | 858         | Poetry Reading                               | 2022-10-24       | Book Voucher RM150   |
| PT004          | Ahmad Muqri Bin Zahir           | Malaysian        | 452         | Spanish Challenge Reading Competition        | 2022-11-15       | Tng Voucher RM120    |
| PT005          | Syed Saddiq Bin Muhammad        | Malaysian        | 654         | Japanese Challenge Reading Competition       | 2022-11-16       | GrabPay Voucher RM100|
| PT006          | Mohamad Sanjaya Bin Kamal       | Malaysian        | 999         | German Challenge Reading Competition         | 2022-11-17       | Lazada Voucher RM100 |
| PT007          | Nurul Farah Binti Abdulah Syabir| Malaysian        | 425         | Chinese Challenge Reading Competition        | 2022-11-18       | Shopee Voucher RM120 |
| PT008          | Yogeshwaran A/L Kumar           | Malaysian        | 534         | Arabic Challenge Reading Competition         | 2022-12-20       | Tng Voucher RM120    |
| PT010          | Leanne Lee Yan Ting             | Malaysian        | 657         | English Challenge Reading Competition        | 2022-12-22       | Book Voucher RM200   |
| PT011          | Syafina binti Fadillah          | Malaysian        | 895         | Hokkien Challenge Reading Competition        | 2022-12-12       | Lazada Voucher RM120 |
| PT209          | Chen Dong Pin                   | Foreigner        | 756         | Cantonese Challenge Reading Competition      | 2022-12-21       | Shopee Voucher RM200 |
| PT212          | Carla W. Jamerson               | Foreigner        | 666         | Bahasa Melayu Challenge Reading Competition  | 2022-10-20       | Tng Voucher RM120    |
+----------------+---------------------------------+------------------+-------------+----------------------------------------------+------------------+----------------------+
12 rows in set (0.01 sec)
```

7. FUNCTIONAL DEPENDENCIES (FD)

1NF
1st approach (design of normalization)

Bookstore (<u>Publisher_ID</u>, <u>Author_ID</u>, <u>Book_ISBN</u>, <u>Customer_Email</u>, <u>ShoppingBasket_ID</u>, <u>Warehouse_Code</u>, <u>Staff_ID</u>, <u>Participant_ID</u>, <u>Competition_ID</u>, <u>Score_ID</u>, Bookstore_Code, Prize_ID, Publisher_Name, Publisher_Address, Publisher_Phone, Author_Name, Author_Address, Book_Year, Title, Price, Customer_Name, Customer_Phone, Customer_Address, CountSBB, Shopping_Date, Bookstore_Address, Bookstore_Phone, Warehouse_Phone, Warehouse_Address, CountWB, Staff_Name, Staff_Mobile, Staff_Email, Participant_Name, Participant_Mobile, Participant_Address, Participant_Email, Participant_Type, Competition_Type, Competition_Date, Score_Total, Prize_Name)

Partial Dependency

Author_ID → Author_Name, Author_Address

Publisher_ID → Publisher_Name,Publisher_Phone,Publisher_Address

Customer_Email → Customer_Name,Customer_Phone,Customer_Address

Participant_ID → Participant_Name, Participant_Mobile, Participant_Address, Participant_Email, Participant_Type

Score_ID → Score_Total, Prize_ID, Prize_Name

Competition_ID → Competition_Type, Competition_Date

Book_ISBN → Book_Year, Title, Price

ShoppingBasket_ID → Shopping_Date

Warehouse_Code → Warehouse_Phone, Warehouse_Address

Staff_ID → Staff_Name, Staff_Mobile, Staff_Email, Bookstore_Code, Bookstore_Address, Bookstore_Phone

Full Dependency

ShoppingBasket_ID, Book_ISBN → CountSBB

Warehouse_Code, Book_ISBN → CountWB

Transitive Dependency

Bookstore_Code→ Bookstore_Address (Staff_ID(A) → Bookstore_Code(B)

Bookstore_Code(B) → Bookstore_Address (C))

Prize_ID → Prize_Name (Score_ID(A) → Prize_ID(B)

Prize_ID(B) → Prize_Name(C))

2nd approach (USING ERD TO IMPROVE)

Author (Author_ID, Author_Name, Author_Address)
Publisher (Publisher_ID, Publisher_Name, Publisher_Address, Publisher_Phone)
Customer (Customer_Email, Customer_Name,Customer_Phone,Customer_Address)
Participant (Participant_ID, Participant_Name, Participant_Mobile, Participant_Address, Participant_Email, Participant_Type)
Book (Book_ISBN, Author_ID, Publisher_ID, Book_Year, Title, Price)
ShoppingBasket (ShoppingBasket_ID, Customer_Email, Shopping_Date)
Warehouse (Warehouse_Code, Bookstore_Code, Warehouse_Phone, Warehouse_Address)
Staff (Staff_ID, Bookstore_Code, Bookstore_Address, Bookstore_Phone, Staff_Name, Staff_Mobile, Staff_Email)
ShoppingBasket_Book (ShoppingBasket_ID, Book_ISBN, CountSBB)
Warehouse_Book (Warehouse_Code, Book_ISBN, CountWB)
Score(Score_ID, Score_Total, Prize_ID, Prize_Name)
Competition(Competition_ID, Competition_Type, Competition_Date)

3NF

Author (<u>Author_ID</u>, Author_Name, Author_Address)

Publisher (<u>Publisher_ID</u>, Publisher_Name, Publisher_Address, Publisher_Phone)

Customer (<u>Customer_Email</u>, Customer_Name,Customer_Phone,Customer_Address)

OnlineBookstore (<u>Bookstore_Code</u>, Bookstore_Address, Bookstore_Phone)

Participant (<u>Participant_ID</u>, Participant_Name, Participant_Mobile, Participant_Address, Participant_Email, Participant_Type)

Book (<u>Book_ISBN</u>, Author_ID, Publisher_ID, Book_Year, Title, Price)

ShoppingBasket (<u>ShoppingBasket_ID</u>, Customer_Email, Shopping_Date)

Warehouse (<u>Warehouse_Code</u>, Bookstore_Code, Warehouse_Phone, Warehouse_Address)

Staff (<u>Staff_ID</u>, <u>Bookstore_Code</u>, Staff_Name, Staff_Mobile, Staff_Email)

ShoppingBasket_Book (<u>ShoppingBasket_ID</u>, <u>Book_ISBN</u>, CountSBB)

Warehouse_Book (<u>Warehouse_Code</u>, <u>Book_ISBN</u>, CountWB)

Score (<u>Score_ID</u>, <u>Prize_ID</u>, Score_Total)

Prize (<u>Prize_ID</u>, Prize_Name)

Competition(<u>Competition_ID</u>, Competition_Type, Competition_Date)

ENTITY, ATTRIBUTES AND PRIMARY KEY

Entity	Attributes	Primary Key
Author	Author_ID Author_Name Author_Address	Author_ID
Publisher	Publisher_ID Publisher_Name Publisher_Address Publisher_Phone	Publisher_ID
Book	Book_ISBN Book_Year Title Price Author_ID Publisher_ID	Book_ISBN
ShoppingBasket_Book	ShoppingBasket_ID Book_ISBN CountSBB	ShoppingBasket_ID Book_ISBN
ShoppingBasket	ShoppingBasket_ID Customer_Email Shopping_Date	ShoppingBasket_ID
Customer	Customer_Email Customer_Name Customer_Phone Customer_Address	Customer_Email
Warehouse_Book	Warehouse_Code Book_ISBN CountWB	Warehouse_Code Book_ISBN,
Warehouse	Warehouse_Code Bookstore_Code Warehouse_Phone Warehouse_Address	Warehouse_Code
OnlineBookstore	Bookstore_Code Bookstore_Address Bookstore_Phone	Bookstore_Code
Staff	Staff_ID Bookstore_Code Staff_Name Staff_Mobile Staff_Email	Staff_ID
Prize	Prize_ID Participant_ID Staff_ID Prize_Name	Prize_ID
Score	Score_ID Participant_ID Competition_ID	Score_ID

	Prize_ID Score_Total	
Participant	Participant_ID Participant_Name Participant_Mobile Participant_Address Participant_Email Participant_Type	Participant_ID
Competition	Competition_ID Competition_Type Competition_Date	Competition_ID

8. DATA DICTIONARY (DD)

Remark:
PK = Primary Key FK = Foreign Key N = Not Null

Author Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Author_ID	Author ID	varchar	100	PK, N
2.	Author_Name	Author Name	varchar	100	N
3.	Author_Address	Author Address	varchar	100	

Publisher Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Publisher_ID	Publisher ID	varchar	100	PK, N
2.	Publisher_Name	Publisher Name	varchar	100	N
3.	Publisher_Address	Publisher Address	varchar	100	N
4.	Publisher_Phone	Publisher Phone Number	varchar	100	

Book Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Book_ISBN	Book ISBN	varchar	100	PK, N
2.	Author_ID	Author ID	varchar	100	FK, N
3.	Publisher_ID	Publisher ID	varchar	100	FK, N
4.	Book_Year	Book Year	int		
5.	Title	Book Title	varchar	100	N
6.	Price	Book Price per unit	float		N

ShoppingBasket_Book Entity

No	Data	Description	Type	Length	FK/PK, N
1.	ShoppingBasket_ID	Shopping Basket ID	int		PK, FK, N
2.	Book_ISBN	Book ISBN	varchar	100	PK, FK, N
3.	CountSBB	Number of Shopping Basket Book	int		

ShoppingBasket Entity

No	Data	Description	Type	Length	FK/PK, N
1.	ShoppingBasket_ID	Shopping Basket ID	int		PK, N
2.	Customer_Email	Customer Email	varchar	100	FK, N
3.	Shopping_Date	Shopping Date	Date		

Customer Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Customer_Email	Customer Email	varchar	100	PK, N
2.	Customer_Name	Customer Name	varchar	100	
3.	Customer_Phone	Customer Phone Number	varchar	100	N
4.	Customer_Address	Customer Address	varchar	100	N

Warehouse_Book Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Warehouse_Code	Warehouse Code	int		PK, FK, N
2.	Book_ISBN	Book ISBN	varchar	100	PK, FK, N
3.	CountWB	Number of Warehouse Book	int		

Warehouse Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Warehouse_Code	Warehouse Code	int		PK, N
2.	Bookstore_Code	Bookstore Code	varchar	100	FK
3.	Warehouse_Phone	Warehouse Phone Number	varchar	100	
4.	Warehouse_Address	Warehouse Address	varchar	100	

OnlineBookStore Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Bookstore_Code	Bookstore Code	varchar	100	PK, N
2.	Bookstore_Address	Bookstore Address	varchar	100	
3.	Bookstore_Phone	Bookstore Phone Number	varchar	100	N

Staff Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Staff_ID	Staff ID	varchar	100	PK, N
2.	Bookstore_Code	Bookstore Code	varchar	100	FK
3.	Staff_Name	Staff Name	varchar	100	N
4.	Staff_Mobile	Staff Mobile Number	varchar	100	N
5.	Staff_Email	Staff Email	varchar	100	

Prize Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Prize_ID	Prize ID	varchar	100	PK, N
2.	Participant_ID	Participant ID	varchar	100	FK, N
3.	Staff_ID	Staff ID	varchar	100	FK, N
4.	Prize_Name	Prize Name	varchar	100	N

Score Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Score_ID	Score ID	varchar	100	PK, N
2.	Participant_ID	Participant ID	varchar	100	FK, N
3.	Competition_ID	Competition ID	varchar	100	FK, N
4.	Prize_ID	Prize ID	varchar	100	FK, N
5.	Score_Total	Total Score	int		N

Participant Entity

No	Data	Description	Type	Length	FK/PK
1.	Participant_ID	Participant ID	varchar	100	PK, N
2.	Participant_Name	Participant Name	varchar	100	
3.	Participant_Mobile	Participant Mobile Phone	varchar	100	N
4.	Participant_Address	Participant Address	varchar	100	N
5.	Participant_Email	Participant Email	varchar	100	
6.	Participant_Type	Participant Type	varchar	100	

Competition Entity

No	Data	Description	Type	Length	FK/PK, N
1.	Competition_ID	Competition ID	varchar	100	PK, N
2.	Competition_Type	Competition Type	varchar	100	
3.	Competition_Date	Competition Date	varchar	date	N

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