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1. Creating table:

```
CREATE TABLE BOOK(  
  Book_id INT ,  
  Title VARCHAR (40) ,  
  Publisher_Name VARCHAR (40) ,  
  Pub_Year INT ,  
  PRIMARY KEY (Book_id)  
);
```

```
CREATE TABLE BOOK_AUTHORS(  
  Book_id INT ,  
  Author_Name VARCHAR (40) ,  
  PRIMARY KEY (Book_id)  
);
```

```
CREATE TABLE PUBLISHER(  
  Name VARCHAR (40) ,  
  Address VARCHAR (60) ,  
  Phone INT ,  
  PRIMARY KEY (Name)  
);
```

```
CREATE TABLE BOOK_COPIES(  
  Book_id INT ,  
  Branch_id INT ,  
  No_of_Copies INT ,  
  PRIMARY KEY (Book_id)  
);
```

```
CREATE TABLE BOOK_LENDING(  
  Book_id INT ,  
  Branch_id INT ,  
  Card_No INT ,  
  Date_Out INT ,  
  Due_Date INT ,  
  PRIMARY KEY (Book_id)  
);
```

```
CREATE TABLE LIBRARY_BRANCH(
  Branch_id INT ,
  Branch_Name VARCHAR (40) ,
  Address VARCHAR (60) ,
  PRIMARY KEY (Branch_id)
);
```

The screenshot shows a database management interface with a central SQL editor and a right-hand pane displaying the schemas of several tables. The SQL editor contains the following queries:

```

-- BOOK
No_of_Copies INT ,
PRIMARY KEY (Book_id)
);

-- BOOK_LENDING
CREATE TABLE BOOK_LENDING(
  Book_id INT ,
  Branch_id INT ,
  Card_No INT ,
  Date_Out INT ,
  Due_Date INT ,
  PRIMARY KEY (Book_id)
);

-- LIBRARY_BRANCH
CREATE TABLE LIBRARY_BRANCH(
  Branch_id INT ,
  Branch_Name VARCHAR (40) ,
  Address VARCHAR (60) ,
  PRIMARY KEY (Branch_id)
);

```

The right-hand pane shows the following table schemas:

- BOOK**: Book_id, Title, Publisher_Name, Pub_Year
- BOOK_AUTHORS**: Book_id, Author_Name
- BOOK_COPIES**: Book_id, Branch_id, No_of_Copies
- BOOK_LENDING**: Book_id, Branch_id, Card_No, Date_Out, Due_Date
- LIBRARY_BRANCH**: Branch_id, Branch_Name, Address
- PUBLISHER**: Name, Address, Phone

The output area at the bottom of the SQL editor displays the message: "SQL query successfully executed. However, the result set is empty."

2. Inserting values to all the tables:

Table name: BOOK

INSERT INTO BOOK

VALUES ('001', 'The Monk who Sold His Ferrari', 'Jaico Publishing House', '1946');

INSERT INTO BOOK

VALUES ('002', 'The Immortals of Meluha', 'Westland Publications', '1996');

INSERT INTO BOOK

VALUES ('003', 'The God of Small Things', 'Penguin Random House India', '1985');

BOOK

Book_id	Title	Publisher_Name	Pub_Year
1	The Monk who Sold His Ferrari	Jaico Publishing House	1946
2	The Immortals of Meluha	Westland Publications	1996
3	The God of Small Things	Penguin Random House India	1985

Table name: BOOK_AUTHORS

```
INSERT INTO BOOK_AUTHORS  
VALUES ('001', 'Robin Sharma');
```

```
INSERT INTO BOOK_AUTHORS  
VALUES ('002', 'Amish Tripathi');
```

```
INSERT INTO BOOK_AUTHORS  
VALUES ('003', 'Arundhati Roy');
```

BOOK_AUTHORS

Book_id	Author_Name
1	Robin Sharma
2	Amish Tripathi
3	Arundhati Roy

Table name: PUBLISHER

```
INSERT INTO PUBLISHER  
VALUES ('Jaico Publishing House', 'Russia', '+7911 123456');
```

```
INSERT INTO PUBLISHER  
VALUES ('Westland Publications', 'Norway', '+4789 672646');
```

```
INSERT INTO PUBLISHER  
VALUES ('Penguin Random House India', 'India', '+91 7864874615');
```

PUBLISHER

Name	Address	Phone
Jaico Publishing House	Russia	+7911 123456
Westland Publications	Norway	+4789 672646
Penguin Random House India	India	+91 7864874615

Table name: BOOK_COPIES

```
INSERT INTO BOOK_COPIES  
VALUES ('001', '102', '1500');
```

```
INSERT INTO BOOK_COPIES  
VALUES ('002', '113', '2400');
```

```
INSERT INTO BOOK_COPIES  
VALUES ('003', '346', '900');
```

BOOK_COPIES

Book_id	Branch_id	No_of_Copies
1	102	1500
2	113	2400
3	346	900

Table name: BOOK_LENDING

```
INSERT INTO BOOK_LENDING  
VALUES ('001', '102', '23','21.02.2023','17.03.2023');
```

```
INSERT INTO BOOK_LENDING  
VALUES ('002', '113', '12','28.02.2023','25.03.2023');
```

```
INSERT INTO BOOK_LENDING  
VALUES ('003', '346', '30','02.03.2023','28.03.2023');
```

BOOK_LENDING

Book_id	Branch_id	Card_No	Date_Out	Due_Date
1	102	23	21.02.2023	17.03.2023
2	113	12	28.02.2023	25.03.2023
3	346	30	02.03.2023	28.03.2023

Table name: LIBRARY_BRANCH

```
INSERT INTO LIBRARY_BRANCH
```

```
VALUES ('1002', 'Central Library','Chennai');
```

```
INSERT INTO LIBRARY_BRANCH  
VALUES ('1114', 'Digital Library','Coimbatore');
```

```
INSERT INTO LIBRARY_BRANCH  
VALUES ('967', 'Pachaiyappa Library', 'Madurai');
```

LIBRARY_BRANCH

Branch_id	Branch_Name	Address
1002	Central Library	Chennai
1114	Digital Library	Coimbatore
967	Pachaiyappa Library	Madurai

3. Changing Datatype and adding one more Column:

```
ALTER TABLE BOOK_AUTHORS  
ALTER Author_name char(50);
```

```
ALTER TABLE BOOK_COPIES  
ADD Books_Taken INT;
```

BOOK_COPIES

Book_id	Branch_id	No_of_Copies	Books_Taken
1	102	1500	
2	113	2400	
3	346	900	

4.

```
DELETE FROM BOOK WHERE Title='The God of Small Things';
```

BOOK

Book_id	Title	Publisher_Name	Pub_Year
1	The Monk who Sold His Ferrari	Jaico Publishing House	1946
2	The Immortals of Meluha	Westland Publications	1996

And contents are updated in other tables also due to the deletion of particular book in BOOK table

5.

```
SELECT CARD_NO
FROM BOOK_LENDING
WHERE DATE_OUT BETWEEN '2017-01-01' AND '2017-06-01'
GROUP BY CARD_NO
HAVING COUNT(*)>3;
```

6.

ALTER TABLE BOOK_COPIES RENAME No_of_Copies TO Total_Copies;

BOOK_COPIES

Book_id	Branch_id	Total_Copies	Books_Taken
1	102	1500	
2	113	2400	
3	346	900	

7.

TRUNCATE TABLE PUBLISHER;

BOOK_LENDING

Book_id	Branch_id	Card_No	Date_Out	Due_Date
empty				

8.

DROP TABLE PUBLISHER;

BOOK [-]

Book_id [int]

Title [varchar (40)]

Publisher_Name [varchar (40)]

Pub_Year [int]

BOOK_AUTHORS [-]

Book_id [int]

Author_Name [varchar (40)]

BOOK_COPIES [-]

Book_id [int]

Branch_id [int]

No_of_Copies [int]

BOOK_LENDING [-]

Book_id [int]

Branch_id [int]

Card_No [int]

Date_Out [int]

Due_Date [int]

LIBRARY_BRANCH [-]

Branch_id [int]

Branch_Name [varchar (40)]

Address [varchar (60)]

< Input

-- Online SQL Editor to Run SQL Online.
-- Use the editor to create new tables, insert data and all other SQL operations.

DROP TABLE PUBLISHER;

Output

SQL query successfully executed. However, the result set is empty.

9.

SELECT * FROM BOOK_AUTHORS WHERE Book_id BETWEEN 1 AND 2

Input

Run SQL

-- Online SQL Editor to Run SQL Online.
-- Use the editor to create new tables, insert data and all other SQL operations.

SELECT * FROM BOOK_AUTHORS WHERE Book_id BETWEEN 1 AND 2

Output

Book_id	Author_Name
1	Robin Sharma
2	Amish Tripathi

SELECT * FROM BOOK WHERE Pub_Year IN ('1946','1985');

Input

Run SQL

-- Online SQL Editor to Run SQL Online.
-- Use the editor to create new tables, insert data and all other SQL operations.

```
SELECT * FROM BOOK WHERE Pub_Year IN ('1946','1985');
```

Output

Book_id	Title	Publisher_Name	Pub_Year
1	The Monk who Sold His Ferrari	Jaico Publishing House	1946
3	The God of Small Things	Penguin Random House India	1985

SELECT * FROM BOOK WHERE Title LIKE 'T%'

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<

Input

Run SQL

>

```
-- Online SQL Editor to Run SQL Online.
-- Use the editor to create new tables, insert data and all other SQL operations.

SELECT * FROM BOOK WHERE Title LIKE 'T%'
```

Output

Book_id	Title	Publisher_Name	Pub_Year
1	The Monk who Sold His Ferrari	Jaico Publishing House	1946
2	The Immortals of Meluha	Westland Publications	1996
3	The God of Small Things	Penguin Random House India	1985

10.

```
SELECT COUNT(Book_id), Pub_Year
FROM BOOK
GROUP BY Pub_Year;
```

Input

Run SQL

-- Online SQL Editor to Run SQL Online.
-- Use the editor to create new tables, insert data and all other SQL operations.

SELECT COUNT(Book_id), Pub_Year
FROM BOOK
GROUP BY Pub_Year;

Output

COUNT(Book_id)	Pub_Year
1	1946
1	1985
1	1996

```
SELECT Branch_id  
FROM LIBRARY_BRANCH  
ORDER BY Branch_id ASC;
```

Online SQL Editor to Run SQL Online.
Use the editor to create new tables, insert data and all other SQL operations.

Input

Run SQL

```
SELECT Branch_id
FROM LIBRARY_BRANCH
ORDER BY Branch_id ASC;
```

Output

Branch_id
967
1002
1114