FINAL PROJECT

STAT 444

Due Date: 19.06.2023 17:00

Answer the following questions by writing the SQL statements.

Q.1. Create 5 tables with the following properties by using SQL Statements: (3 points each)

Table Name	Field Name	Data Type
Author	AID AName Salary	Number - Primary Key Short Text (75) Number
Publisher	PID PName	Number - Primary Key Short Text (75)
Book	BID AID PID Title Price	Number - Primary Key Linked with Author AID Linked with Publisher PID Short Text (225) Decimal (5,2)
Customer	CID CName	Number - Primary Key Short Text (75)
Orders	OrderID CID BID OrderAmount	AutoNumber - Primary Key Linked with Customer CID Linked with Book BID Number

1_1

```
CREATE TABLE Author
(AID INT PRIMARY KEY,
AName VARCHAR (75),
Salary INT);
```

1_2

```
CREATE TABLE Publisher
(PID INT PRIMARY KEY,
PName VARCHAR (75));
```

1_3

```
CREATE TABLE Book (
   BID INT PRIMARY KEY,
   AID INT,
   PID INT,
   Title VARCHAR(225),
   Price DECIMAL(5,2),
   FOREIGN KEY (AID) REFERENCES Author(AID)
```

1_4

```
CREATE TABLE Customer
(CID INT PRIMARY KEY,
CName VARCHAR (75));
```

1_5

```
CREATE TABLE Orders (
   OrderID AUTOINCREMENT PRIMARY KEY,
   CID INT,
   BID INT,
   OrderAmount INT,
   FOREIGN KEY (CID) REFERENCES Customer(CID),
   FOREIGN KEY (BID) REFERENCES Book(BID));
```

Q.2. **Insert data for each table as given below: (2 points each)**

Table Name	Data
Author	AuthorData
Publisher	PublisherData
Book	BookData
Customer	CustomerData
Orders	OrdersData

2_1

```
INSERT INTO Author ( AID, AName, Salary )
SELECT AID, AName, Salary
FROM AuthorData;
```

2_2

```
INSERT INTO Publisher ( PID, PName )
SELECT PID, PName
FROM PublisherData;
```

2_3

```
INSERT INTO Book ( BID, AID, PID, Title, Price )
SELECT BID, AID, PID, Title, Price
FROM BookData;
```

2_4

```
INSERT INTO Customer ( CID, CName )
SELECT CID, CName
FROM CustomerData;
```

2_5

```
INSERT INTO Orders ( OrderID, CID, BID, OrderAmount )
SELECT OrderID, CID, BID, OrderAmount
FROM OrdersData;
```

Q.3. **Who doesn't have a book in the table "Book"? Write the SQL statement to get the answer. (5 points)**

```
SELECT AID, AName
FROM Author
WHERE AID NOT IN (SELECT DISTINCT AID FROM Book);
```

Q.4. **The book namely "Lolita" is written by the author you found in previous question. Write the SQL statement to assign that book to him/her. (5 points)**

```
UPDATE Book
SET AID = 89
WHERE Title = 'Lolita';
```

Q.5. **Who has more than 2 books? (5 points)**

```
SELECT A.AID, A.AName, COUNT(*) AS BookCount
FROM Author A
INNER JOIN Book B ON A.AID = B.AID
GROUP BY A.AID, A.AName
HAVING COUNT(*) > 2;
```

Q.6. **Add Deniz Çelikel to the table "Author" with the following particulars: (5 points)**

AID	AName	Salary
444	Deniz Çelikel	10000

```
INSERT INTO Author (AID, AName, Salary)
VALUES (444, 'Deniz Çelikel', 10000);
```

Q.7. **Add the following book to the table "Book" with the following particulars. You should fill the ungiven information AID and PID: (5 points)**

BID	AID	PID	Title	Price
444			Marka Hukukunda Avrupa Birliği Adalet Divanı Kararları ve Yorumu	11,10

```
INSERT INTO Book (BID, AID, PID, Title, Price)
VALUES (444, 444, 6, 'Marka Hukukunda Avrupa Birlii Adalet Divan Kararlar ve
Yorumu', 11.10);
```

Q.8. **Add the following order to the table "Orders" with the following particulars: (5 points)**

CID	BID	OrderAmount
2218022	444	5

```
INSERT INTO Orders (CID, BID, OrderAmount)
VALUES (2218022, 444, 5);
```

Q.9. **Who has ordered "Death of the Black Widow"? (Only the name of the customer(s) is asked!): (5 points)**

```
SELECT DISTINCT C.CName
FROM (Customer AS C
INNER JOIN Orders AS O ON C.CID = O.CID)
INNER JOIN Book AS B ON O.BID = B.BID
WHERE B.Title = 'Death of the Black Widow';
```

Q.10. **Who has ordered "The Brothers Karamazov" and "Heart of Darkness"? (Only the name of the customer(s) is asked!): (5 points)**

```
SELECT C.CName
FROM Customer AS C
WHERE C.CID IN (
   SELECT O.CID
   FROM Orders AS O
   INNER JOIN Book AS B ON O.BID = B.BID
   WHERE B.Title = 'The Brothers Karamazov'
)
```

Q.11. **List the "TotalPrice" of each book in the table "Orders". (TotalPrice= OrderAmount*Price) (5 points)**

```
SELECT O.BID, O.OrderAmount, B.Price, (O.OrderAmount * B.Price) AS TotalPrice
FROM Orders AS O
INNER JOIN Book AS B ON O.BID = B.BID;
```

Q.12. **List the total amount of the orders for each book? (5 points)**

```
SELECT O.BID, B.Title, SUM(O.OrderAmount) AS TotalOrderAmount
FROM Orders AS O
INNER JOIN Book AS B ON O.BID = B.BID
GROUP BY O.BID, B.Title;
```

Q.13. **Find the number of each book that each author has written? (5 points)**

```
SELECT A.AName, B.Title, COUNT(*) AS BookCount
FROM Author AS A INNER JOIN Book AS B ON A.AID = B.AID
GROUP BY A.AID, A.AName, B.BID, B.Title;
```

Q.14. **Find the number of orders for each author including the authors has no order? (10 points)**

```
SELECT A.AName, COUNT(O.OrderID) AS OrderCount
FROM Author AS A
LEFT JOIN (
   SELECT B.AID, O.OrderID
   FROM Book AS B
   LEFT JOIN Orders AS O ON B.BID = O.BID
) AS O ON A.AID = O.AID
GROUP BY A.AID, A.AName;
```

Q.16. **Find all books that the prices are more than 12 and less than 40. (Only the titles of the books should be listed) (10 points)**

```
SELECT Title
FROM Book
WHERE Price > 12 AND Price < 40;
```

END OF THE PROJECT

Thank you for your cooperation. Bonus questions 15 & 17 are separated.