

# PROGRAM 7

The following tables are maintained by a Book Dealer:

**AUTHOR**(author-id: int, name: String, city: String, country: String)

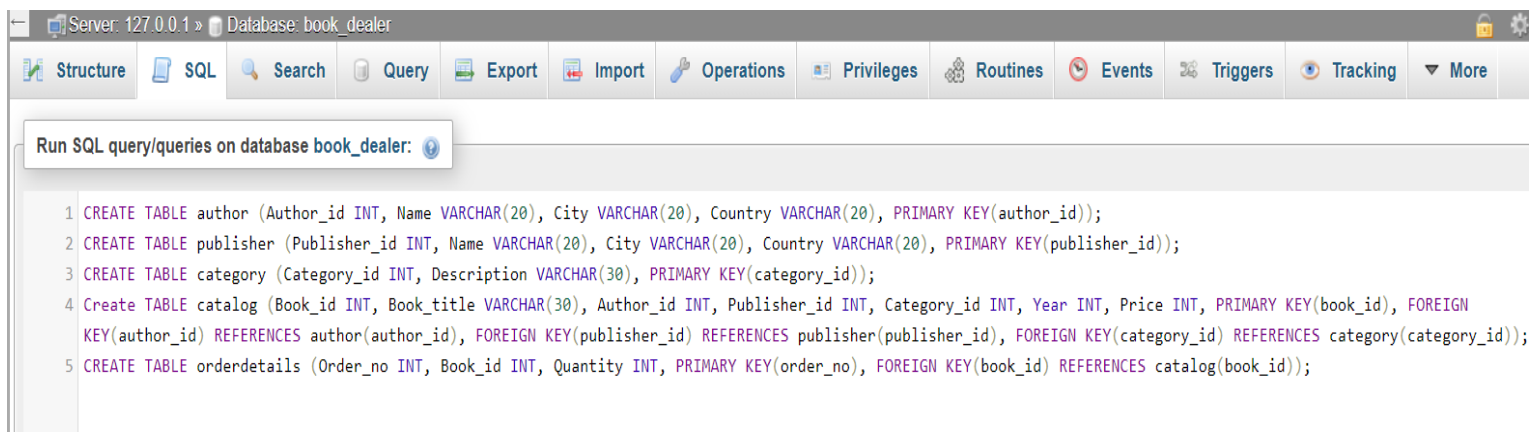
**PUBLISHER**(publisher-id: int, name: String, city: String, country: String)

**CATALOG**(book-id: int, title: String, author-id: int, publisher-id: int, category-id: int, year: int, price: int)

**CATEGORY**(category-id: int, description: String)

**ORDER-DETAILS**(order-no: int, book-id: int, quantity: int)

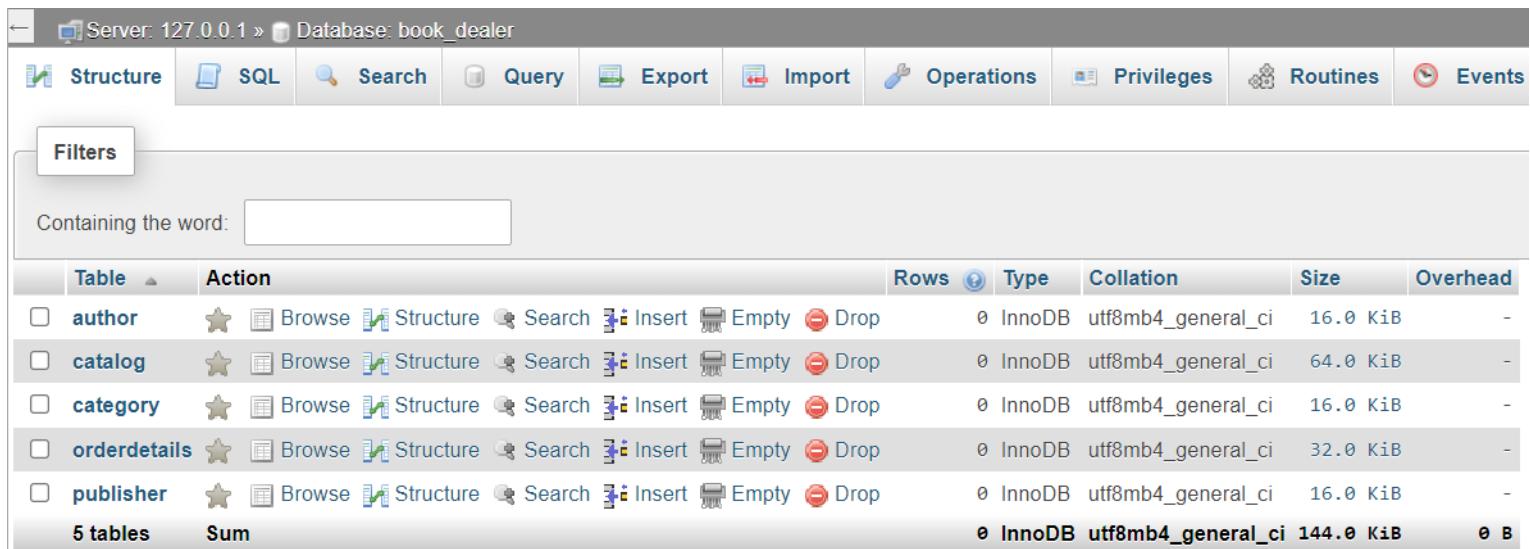
i. Create the above tables by properly specifying the primary keys and the foreign keys.



Server: 127.0.0.1 » Database: book\_dealer

Run SQL query/queries on database book\_dealer:

```
1 CREATE TABLE author (Author_id INT, Name VARCHAR(20), City VARCHAR(20), Country VARCHAR(20), PRIMARY KEY(author_id));
2 CREATE TABLE publisher (Publisher_id INT, Name VARCHAR(20), City VARCHAR(20), Country VARCHAR(20), PRIMARY KEY(publisher_id));
3 CREATE TABLE category (Category_id INT, Description VARCHAR(30), PRIMARY KEY(category_id));
4 Create TABLE catalog (Book_id INT, Book_title VARCHAR(30), Author_id INT, Publisher_id INT, Category_id INT, Year INT, Price INT, PRIMARY KEY(book_id), FOREIGN
KEY(author_id) REFERENCES author(author_id), FOREIGN KEY(publisher_id) REFERENCES publisher(publisher_id), FOREIGN KEY(category_id) REFERENCES category(category_id));
5 CREATE TABLE orderdetails (Order_no INT, Book_id INT, Quantity INT, PRIMARY KEY(order_no), FOREIGN KEY(book_id) REFERENCES catalog(book_id));
```



Server: 127.0.0.1 » Database: book\_dealer

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> author	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> catalog	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	64.0 KiB	-
<input type="checkbox"/> category	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> orderdetails	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<input type="checkbox"/> publisher	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	144.0 KiB	0 B

ii. Enter at least five tuples for each relation.

‘AUTHOR’ table:

Server: 127.0.0.1 » Database: book\_dealer

Structure SQL Search Query Export Import

Run SQL query/queries on database book\_dealer: ?

```
1 INSERT INTO author VALUES (1001,'JK Rowling','London','England');
2 INSERT INTO author VALUES (1002,'Chetan Bhagat','Mumbai','India');
3 INSERT INTO author VALUES (1003,'John McCarthy','Chicago','USA');
4 INSERT INTO author VALUES (1004,'Dan Brown','California','USA');
5 INSERT INTO author VALUES (1005,'John Green','Berlin','Germany');
```

Server: 127.0.0.1 » Database: book\_dealer » Table: author

Browse Structure SQL Search Insert Export

✓ Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)

SELECT \* FROM `author`

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

+ Options

← T → ▼		Author_id	Name	City	Country
<input type="checkbox"/>	Edit Copy Delete	1001	JK Rowling	London	England
<input type="checkbox"/>	Edit Copy Delete	1002	Chetan Bhagat	Mumbai	India
<input type="checkbox"/>	Edit Copy Delete	1003	John McCarthy	Chicago	USA
<input type="checkbox"/>	Edit Copy Delete	1004	Dan Brown	California	USA
<input type="checkbox"/>	Edit Copy Delete	1005	John Green	Berlin	Germany

## 'PUBLISHER' table:

Server: 127.0.0.1 » Database: book\_dealer » Table: publisher

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#)

Run SQL query/queries on table book\_dealer.publisher: ?

```
1 INSERT INTO publisher VALUES (2001, 'Bloomsbury', 'London', 'England');
2 INSERT INTO publisher VALUES (2002, 'Scholastic', 'Washington', 'USA');
3 INSERT INTO publisher VALUES (2003, 'Pearson', 'London', 'England');
4 INSERT INTO publisher VALUES (2004, 'Rupa', 'Delhi', 'India');
5 INSERT INTO publisher VALUES (2005, 'Stefan', 'Berlin', 'Germany');
```

Server: 127.0.0.1 » Database: book\_dealer » Table: publisher

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#)

✓ Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)

SELECT \* FROM `publisher`

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

+ Options

				Publisher_id	Name	City	Country
<input type="checkbox"/>				2001	Bloomsbury	London	England
<input type="checkbox"/>				2002	Scholastic	Washington	USA
<input type="checkbox"/>				2003	Pearson	London	England
<input type="checkbox"/>				2004	Rupa	Delhi	India
<input type="checkbox"/>				2005	Stefan	Berlin	Germany

## 'CATEGORY' table:

Server: 127.0.0.1 » Database: book\_dealer » Table: category

Browse Structure SQL Search Insert

Run SQL query/queries on table book\_dealer.category: ?

```
1 INSERT INTO category VALUES (3001,'Fiction');
2 INSERT INTO category VALUES (3002,'Non-Fiction');
3 INSERT INTO category VALUES (3003,'Thriller');
4 INSERT INTO category VALUES (3004,'Action');
5 INSERT INTO category VALUES (3005,'Fiction');
```

Server: 127.0.0.1 » Database: book\_dealer » Table: category

Browse Structure SQL Search Insert

✓ Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)

SELECT \* FROM `category`

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

+ Options

				Category_id	Description
<input type="checkbox"/>	Edit	Copy	Delete	3001	Fiction
<input type="checkbox"/>	Edit	Copy	Delete	3002	Non-Fiction
<input type="checkbox"/>	Edit	Copy	Delete	3003	Thriller
<input type="checkbox"/>	Edit	Copy	Delete	3004	Action
<input type="checkbox"/>	Edit	Copy	Delete	3005	Fiction

## 'CATALOG' table:

Server: 127.0.0.1 » Database: book\_dealer » Table: catalog

Browse Structure SQL Search Insert Export Import P

Run SQL query/queries on table book\_dealer.catalog:

```
1 INSERT INTO catalog VALUES (4001,'HP and Goblet Of Fire',1001,2001,3001,2002,600);
2 INSERT INTO catalog VALUES (4002,'HP and Order Of Phoenix',1001,2002,3001,2005,650);
3 INSERT INTO catalog VALUES (4003,'Two States',1002,2004,3001,2009,65);
4 INSERT INTO catalog VALUES (4004,'3 Mistakes of my life',1002,2004,3001,2007,55);
5 INSERT INTO catalog VALUES (4005,'Da Vinci Code',1004,2003,3001,2004,450);
6 INSERT INTO catalog VALUES (4006,'Angels and Demons',1004,2003,3001,2003,350);
7 INSERT INTO catalog VALUES (4007,'Artificial Intelligence',1003,2002,3002,1970,500);
```

Server: 127.0.0.1 » Database: book\_dealer » Table: catalog

Browse Structure SQL Search Insert Export Import Privileges Operations

✓ Showing rows 0 - 6 (7 total, Query took 0.0005 seconds.)

SELECT \* FROM `catalog`


☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

		Book_id	Book_title	Author_id	Publisher_id	Category_id	Year	Price
<input type="checkbox"/>	Edit Copy Delete	4001	HP and Goblet Of Fire	1001	2001	3001	2002	600
<input type="checkbox"/>	Edit Copy Delete	4002	HP and Order Of Phoenix	1001	2002	3001	2005	650
<input type="checkbox"/>	Edit Copy Delete	4003	Two States	1002	2004	3001	2009	65
<input type="checkbox"/>	Edit Copy Delete	4004	3 Mistakes of my life	1002	2004	3001	2007	55
<input type="checkbox"/>	Edit Copy Delete	4005	Da Vinci Code	1004	2003	3001	2004	450
<input type="checkbox"/>	Edit Copy Delete	4006	Angels and Demons	1004	2003	3001	2003	350
<input type="checkbox"/>	Edit Copy Delete	4007	Artificial Intelligence	1003	2002	3002	1970	500

## 'ORDER-DETAILS' table:






← Server: 127.0.0.1 » Database: book\_dealer » Table: orderdetails

 Browse  Structure  SQL  Search  Insert

Run SQL query/queries on table book\_dealer.orderdetails: ?

```
1 INSERT INTO orderdetails VALUES (5001,4001,5);
2 INSERT INTO orderdetails VALUES (5002,4002,7);
3 INSERT INTO orderdetails VALUES (5003,4003,15);
4 INSERT INTO orderdetails VALUES (5004,4004,11);
5 INSERT INTO orderdetails VALUES (5005,4005,9);
6 INSERT INTO orderdetails VALUES (5006,4006,8);
7 INSERT INTO orderdetails VALUES (5007,4007,2);
8 INSERT INTO orderdetails VALUES (5008,4004,3);
```

← Server: 127.0.0.1 » Database: book\_dealer » Table: orderdetails

























 Browse  Structure  SQL  Search  Insert

✓ Showing rows 0 - 7 (8 total, Query took 0.0005 seconds.)

SELECT \* FROM `orderdetails`

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

+ Options

<div><div><div></div><div></div><div></div></div></div>						Order_no	Book_id	Quantity	
<input type="checkbox"/>		Edit		Copy		Delete	5001	4001	5
<input type="checkbox"/>		Edit		Copy		Delete	5002	4002	7
<input type="checkbox"/>		Edit		Copy		Delete	5003	4003	15
<input type="checkbox"/>		Edit		Copy		Delete	5004	4004	11
<input type="checkbox"/>		Edit		Copy		Delete	5005	4005	9
<input type="checkbox"/>		Edit		Copy		Delete	5006	4006	8
<input type="checkbox"/>		Edit		Copy		Delete	5007	4007	2
<input type="checkbox"/>		Edit		Copy		Delete	5008	4004	3

iii. Give the details of the authors who have 2 or more books in the catalog and the price of the books in the catalog and the year of publication is after 2000.

Query:

```
SELECT * FROM author WHERE author_id IN (SELECT author_id FROM catalog WHERE
year>2000 AND price > (SELECT AVG(price) FROM catalog) GROUP BY author_id HAVING
COUNT(*)>1)
```

Server: 127.0.0.1 » Database: book\_dealer

Structure SQL Search Query Export Import Operations

Run SQL query/queries on database book\_dealer: ?

```
1 SELECT * FROM author
2 WHERE author_id IN (SELECT author_id FROM catalog
3                     WHERE year>2000 AND price > (SELECT AVG(price) FROM catalog)
4                     GROUP BY author_id HAVING COUNT(*)>1);
```

Server: 127.0.0.1 » Database: book\_dealer » Table: author

Browse Structure SQL Search Insert Export

Show query box

✓ Showing rows 0 - 0 (1 total, Query took 0.0481 seconds.)

```
SELECT * FROM author WHERE author_id IN (SELECT author_id FROM catalog
```

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

+ Options

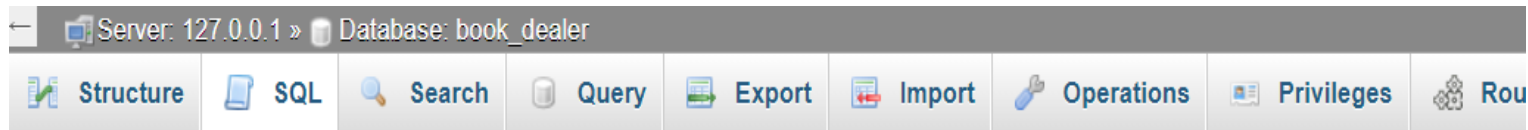
	Author_id	Name	City	Country
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1001	JK Rowling	London	England



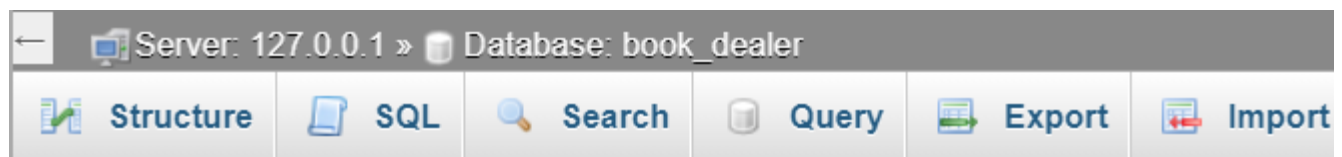
iv. Find the author of the book which has maximum sales.

Query:

```
SELECT name FROM author a, catalog c WHERE a.author_id=c.author_id AND book_id IN  
(SELECT book_id FROM orderdetails WHERE quantity = (SELECT MAX(quantity) FROM  
orderdetails));
```



```
1 SELECT name FROM author a, catalog c  
2 WHERE a.author_id=c.author_id AND book_id IN (SELECT book_id FROM orderdetails  
3 WHERE quantity = (SELECT MAX(quantity) FROM orderdetails));
```



Show query box

✓ Showing rows 0 - 0 (1 total, Query took 0.0034 seconds.)

```
SELECT name FROM author a, catalog c WHERE a.author_id=c.author_id AND  
orderdetails))
```

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

+ Options

**name**

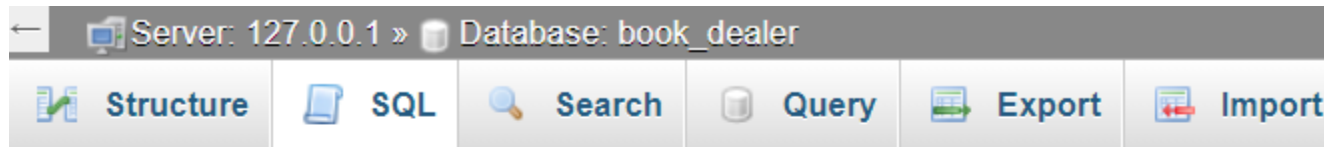
Chetan Bhagat



**v. Demonstrate how you increase the price of books published by a specific publisher by 10%.**

Query:

```
UPDATE catalog SET price=1.1*price WHERE publisher_id IN (SELECT publisher_id FROM publisher WHERE Name='Pearson');
```



Run SQL query/queries on database book\_dealer: ?

```
1 UPDATE catalog
2 SET price=1.1*price
3 WHERE publisher_id IN (SELECT publisher_id FROM publisher
4                       WHERE Name='Pearson');
```

A screenshot of a database management interface showing the results of a query. At the top, it shows 'Server: 127.0.0.1', 'Database: book\_dealer', and 'Table: catalog'. Below this is a toolbar with buttons for 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', and 'Operations'. The 'SQL' button is currently selected. A green status bar indicates 'Showing rows 0 - 6 (7 total, Query took 0.0005 seconds.)'. Below this is a text area containing the query 'SELECT \* FROM `catalog`'. At the bottom, there are controls for 'Show all', 'Number of rows' (set to 25), 'Filter rows' (a search box), and 'Sort by key' (set to None). Below these controls is a table with 9 columns: 'Book\_id', 'Book\_title', 'Author\_id', 'Publisher\_id', 'Category\_id', 'Year', and 'Price'. The table contains 7 rows of data, each with a checkbox, 'Edit', 'Copy', and 'Delete' icons in the first column.

	Book_id	Book_title	Author_id	Publisher_id	Category_id	Year	Price
<input type="checkbox"/> Edit Copy Delete	4001	HP and Goblet Of Fire	1001	2001	3001	2002	600
<input type="checkbox"/> Edit Copy Delete	4002	HP and Order Of Phoenix	1001	2002	3001	2005	650
<input type="checkbox"/> Edit Copy Delete	4003	Two States	1002	2004	3001	2009	65
<input type="checkbox"/> Edit Copy Delete	4004	3 Mistakes of my life	1002	2004	3001	2007	55
<input type="checkbox"/> Edit Copy Delete	4005	Da Vinci Code	1004	2003	3001	2004	495
<input type="checkbox"/> Edit Copy Delete	4006	Angels and Demons	1004	2003	3001	2003	385
<input type="checkbox"/> Edit Copy Delete	4007	Artificial Intelligence	1003	2002	3002	1970	500