

## **LAB- 8(program)**

### **PROGRAM 8 :- STUDENT ENROLLMENT DATABASE**

Consider the following database of student enrollment in courses and books adopted for each course.

**STUDENT** (regno: String, name: String, major: String, bdate: date)

**COURSE** (course #: int, cname: String, dept: String)

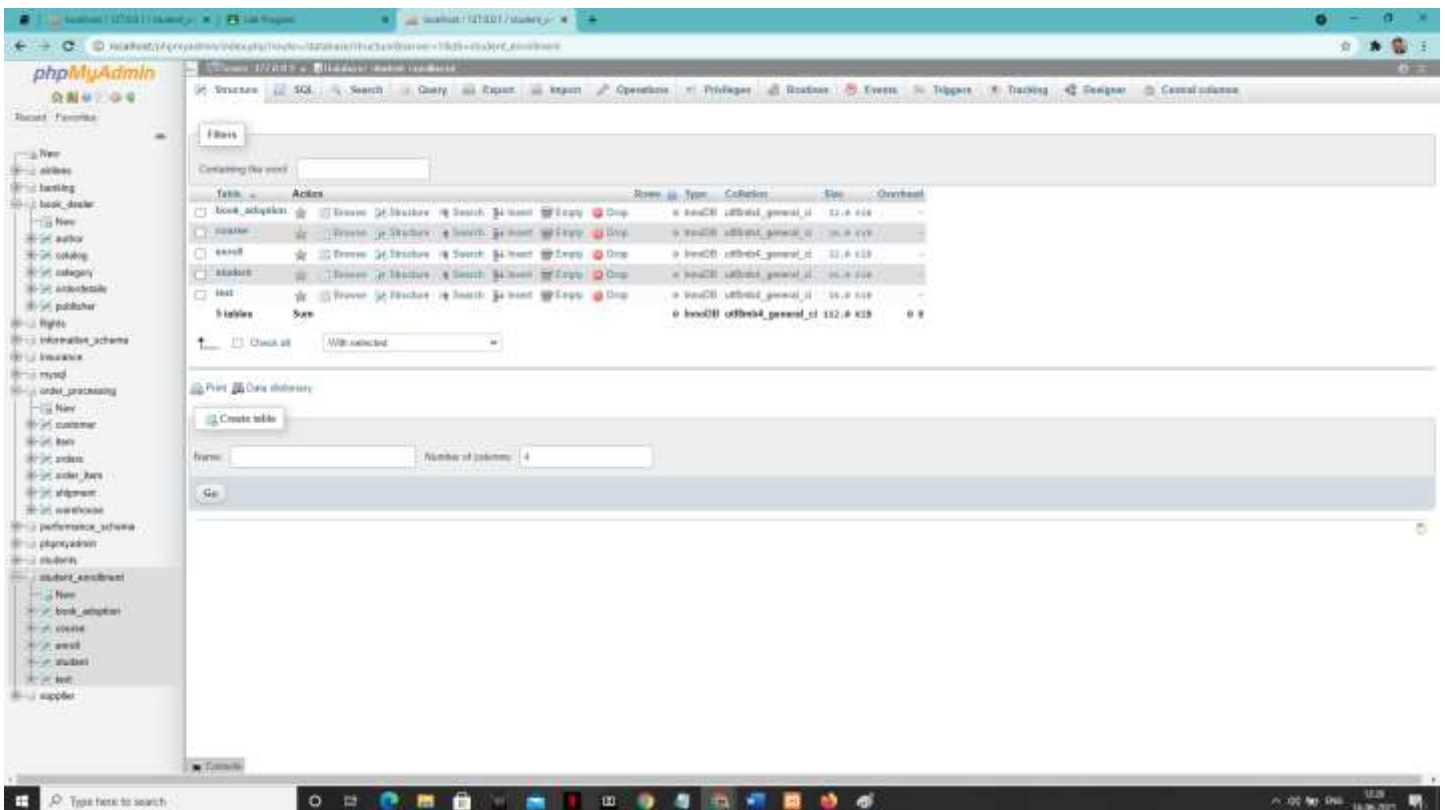
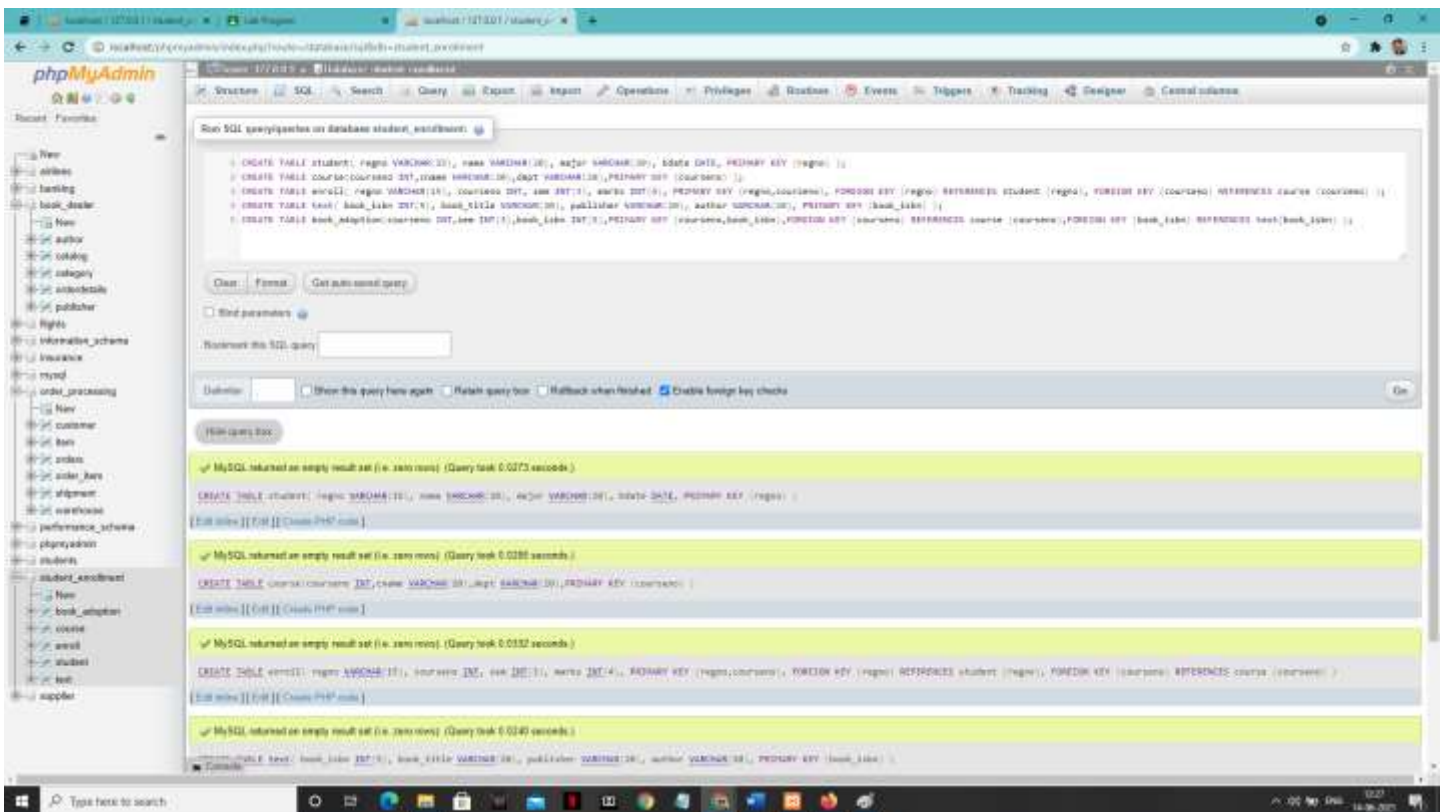
**ENROLL** (regno: String, cname: String, sem: int, marks: int)

**BOOK\_ADOPTION** (course #: int, sem: int, book-ISBN: int)

**TEXT**(book-ISBN:int, book-title:String, publisher:String, author:String)

- i. Create the above tables by properly specifying the primary keys and the foreign keys.
- ii. Enter at least five tuples for each relation.
- iii. Demonstrate how you add a new text book to the database and make this book be adopted by some department.
- iv. Produce a list of text books (include Course #, Book-ISBN, Book-title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.
- v. List any department that has all its adopted books published by a specific publisher.

**Create table:-**



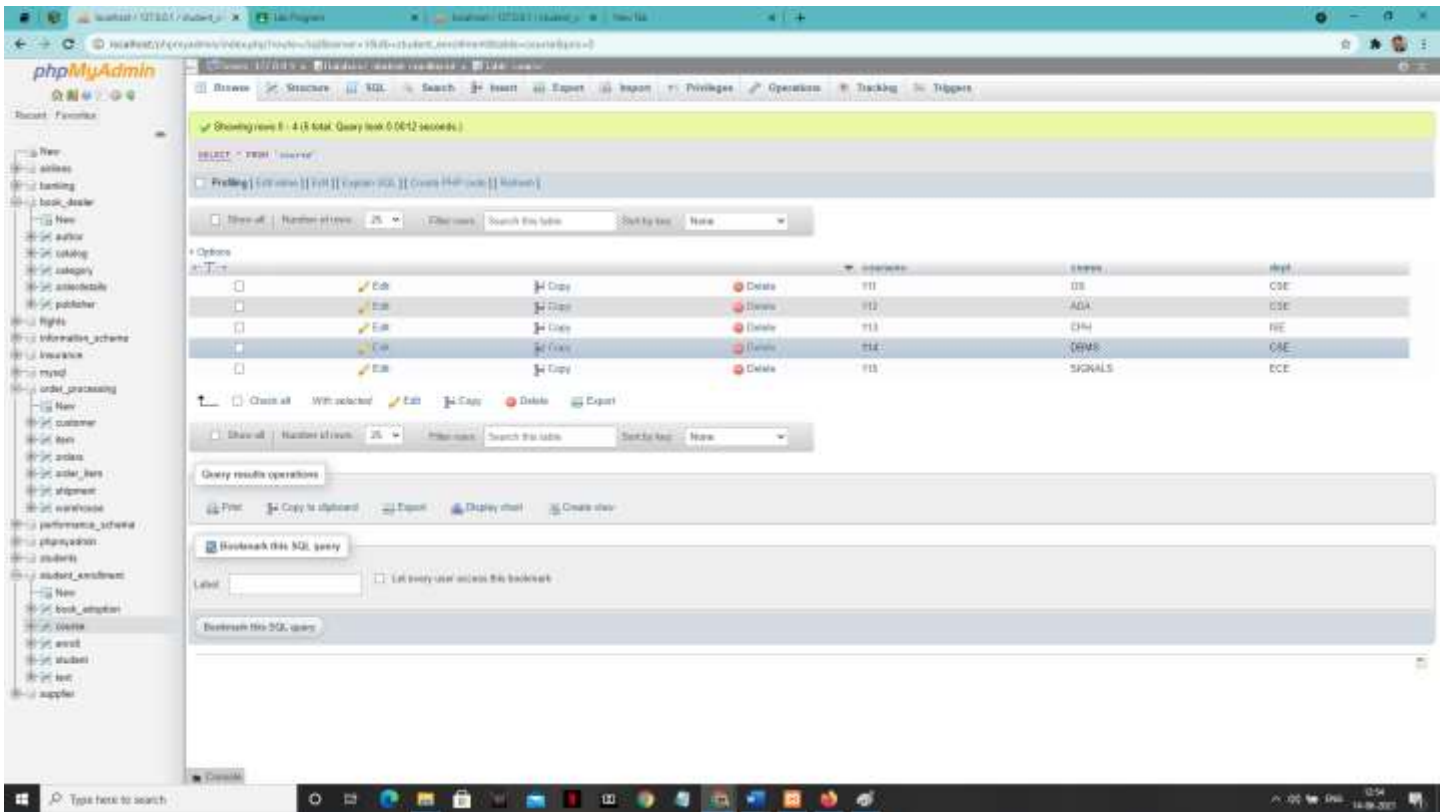
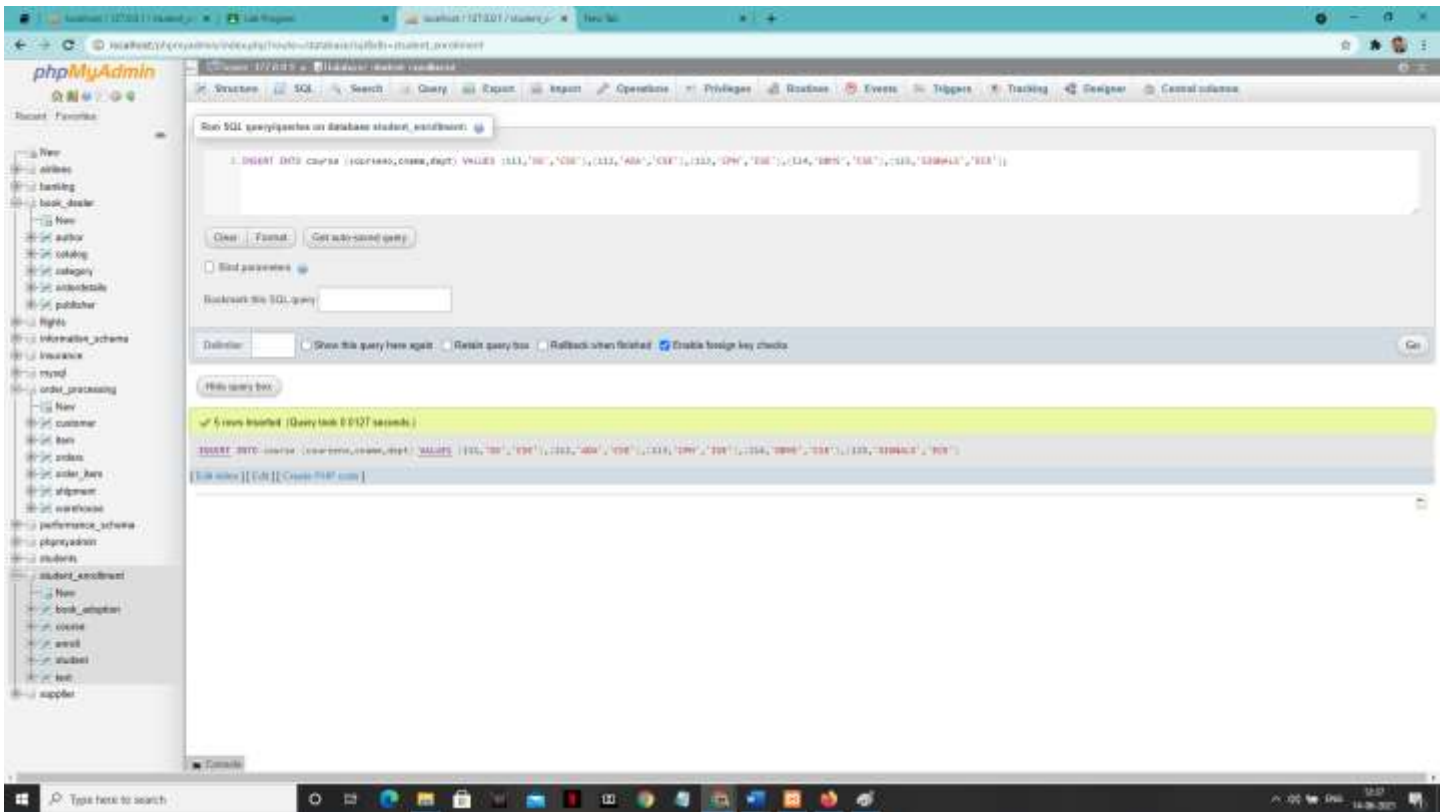
2) Enter tuples for each relation.

## 'STUDENT' table:

The screenshot shows the phpMyAdmin interface for a database named 'bookstore'. The 'STUDENT' table is selected, and its structure is displayed. The table has 8 columns: id, name, email, phone, address, city, state, and date. The data is sorted by id in ascending order. The table contains 5 rows of data.

| id   | name         | email                    | phone        | address      | city          | state | date       |
|------|--------------|--------------------------|--------------|--------------|---------------|-------|------------|
| 1001 | John Doe     | john.doe@example.com     | 123-456-7890 | 123 Main St  | New York      | NY    | 2021-01-01 |
| 1002 | Jane Smith   | jane.smith@example.com   | 987-654-3210 | 456 Elm St   | Los Angeles   | CA    | 2021-02-01 |
| 1003 | Mike Johnson | mike.johnson@example.com | 555-111-2222 | 789 Oak St   | Chicago       | IL    | 2021-03-01 |
| 1004 | Sarah Brown  | sarah.brown@example.com  | 333-444-5555 | 101 Pine St  | San Francisco | CA    | 2021-04-01 |
| 1005 | David Wilson | david.wilson@example.com | 222-333-4444 | 202 Cedar St | Seattle       | WA    | 2021-05-01 |

## 'COURSE' table:



'ENROLL' table:

The screenshot shows the phpMyAdmin interface with the 'enroll' table selected in the 'student\_enrollment' database. The SQL tab is active, displaying an INSERT query that adds five new records to the 'enroll' table. The query is: `INSERT INTO enroll (regno,course_id,stu_marks) VALUES ('18M19C001',111,100),('18M19C002',114,100),('18M19C003',113,100),('18M19C004',112,100),('18M19C005',112,100);` The 'Go' button has been clicked, and a confirmation message states: '5 rows inserted (Query took 0.0291 seconds)'. Below the message, the executed query is shown: `INSERT INTO enroll (regno,course_id,stu_marks) VALUES ('18M19C001',111,100),('18M19C002',114,100),('18M19C003',113,100),('18M19C004',112,100),('18M19C005',112,100);`

The screenshot shows the phpMyAdmin interface with the 'enroll' table selected. The SQL tab is active, displaying the result of the previous INSERT query. The message states: 'Showing rows 1 - 4 (4 total. Query took 0.0015 seconds)'. The query shown is: `SELECT * FROM enroll;` Below the message, there is a table with 5 rows and 3 columns: 'regno', 'course\_id', and 'marks'. The table contains the following data:

| regno     | course_id | marks |
|-----------|-----------|-------|
| 18M19C001 | 111       | 100   |
| 18M19C002 | 114       | 100   |
| 18M19C003 | 113       | 100   |
| 18M19C004 | 112       | 100   |
| 18M19C005 | 112       | 100   |

'BOOK ADOPTION' value: -

The screenshot shows the phpMyAdmin SQL interface. The left sidebar displays a database structure tree with 'student' expanded and 'book\_adoption' selected. The main panel shows a SQL query editor with the following INSERT statement:

```
INSERT INTO book_adoption (course_id, sem, book_id) VALUES  
(111, 3, 900),  
(111, 3, 901),  
(111, 3, 902),  
(111, 3, 903),  
(111, 3, 904),  
(111, 3, 905),  
(111, 3, 906),  
(111, 3, 907)
```

Below the query editor, the 'Run' button is visible. The status bar at the bottom indicates '6 rows inserted (Query took 0.0293 seconds)'.

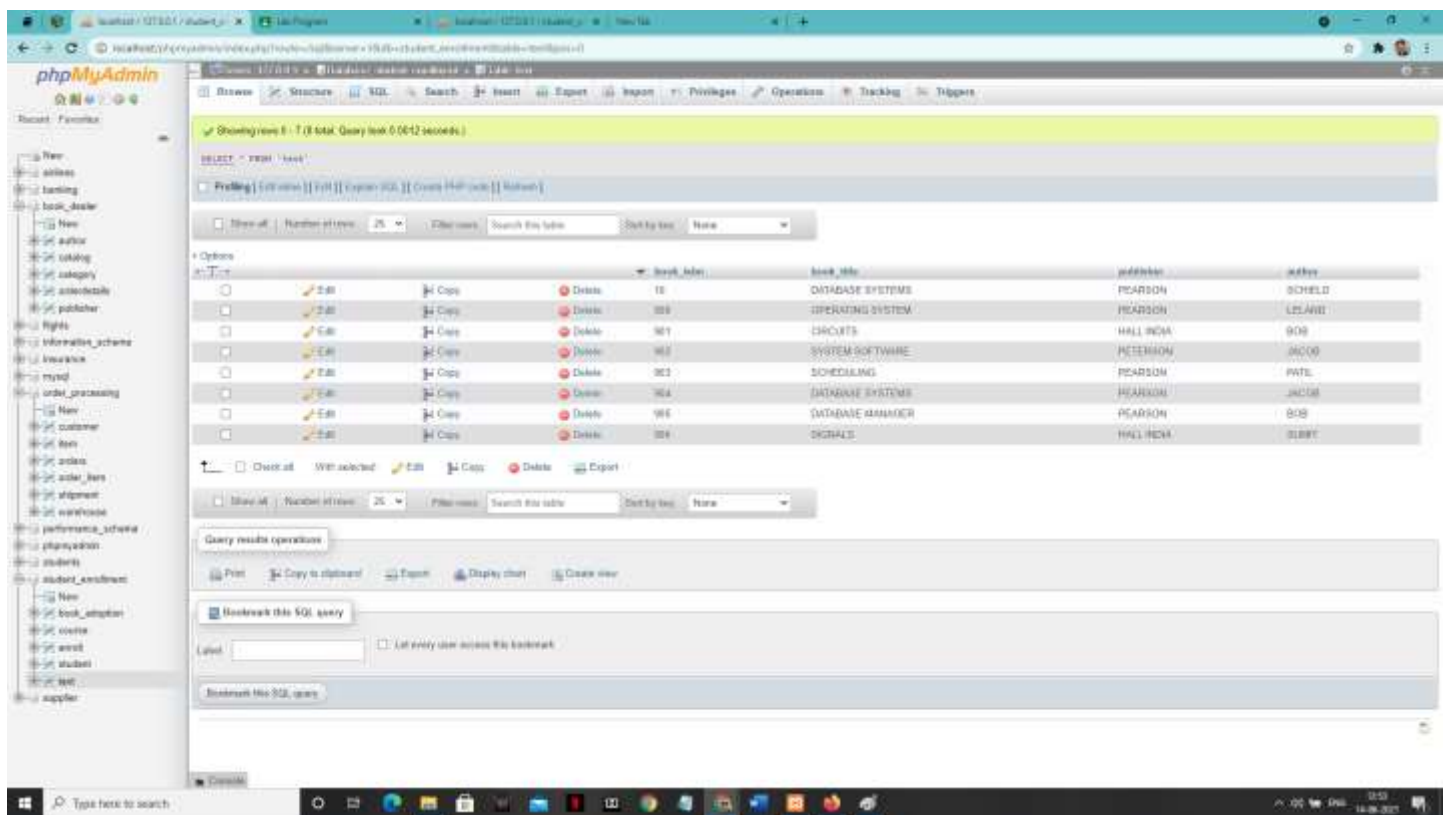
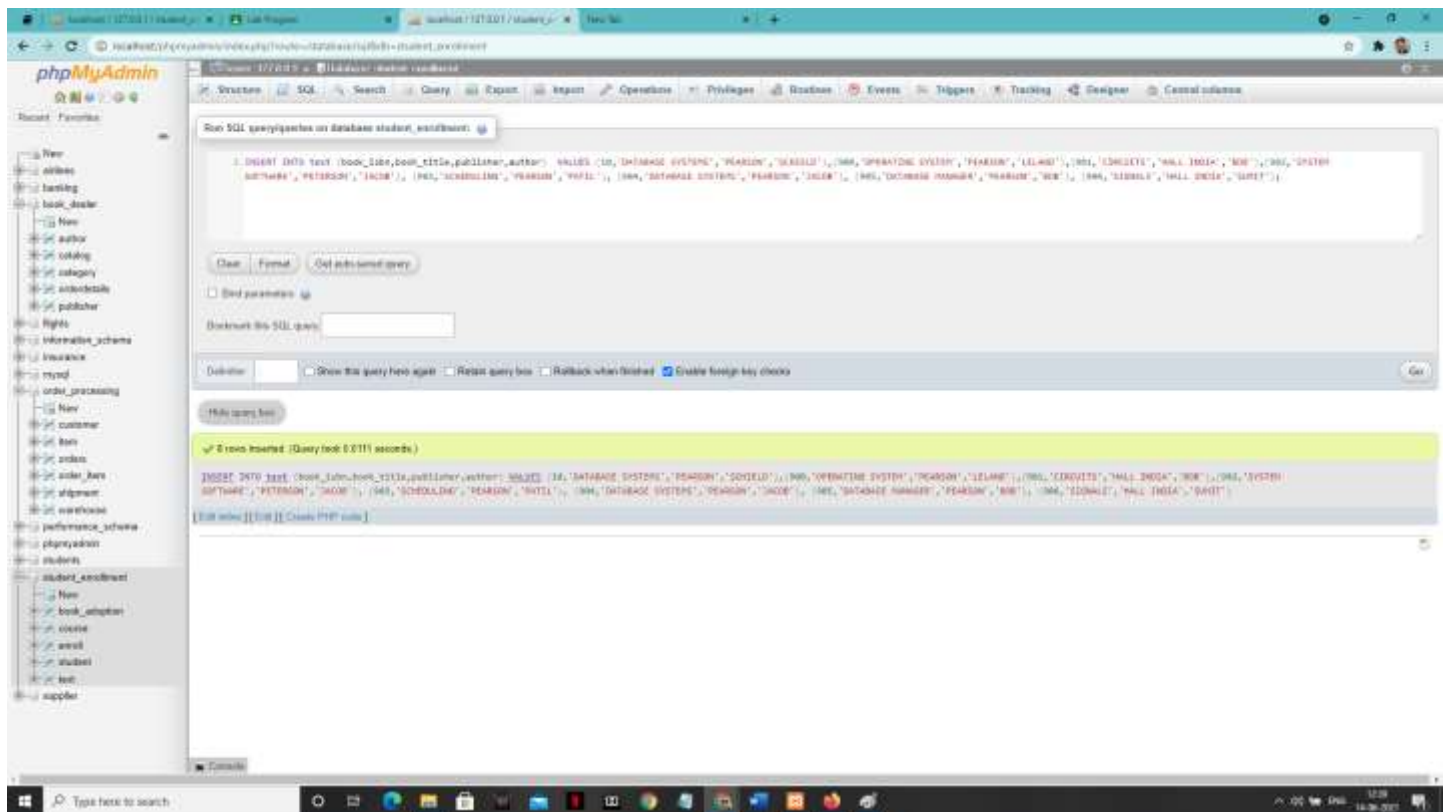
The screenshot shows the phpMyAdmin SQL interface displaying the results of the INSERT query. The main panel shows a table with 6 rows and 3 columns: 'course\_id', 'sem', and 'book\_id'. The table is titled 'Showing rows 6 - 7 (8 total. Query took 0.0413 seconds)'.

| course_id | sem | book_id |
|-----------|-----|---------|
| 111       | 3   | 900     |
| 111       | 3   | 901     |
| 111       | 3   | 902     |
| 111       | 3   | 903     |
| 111       | 3   | 904     |
| 111       | 3   | 905     |

Below the table, the 'Query results operations' section is visible, including options for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'. The 'Bookmark this SQL query' section is also present.

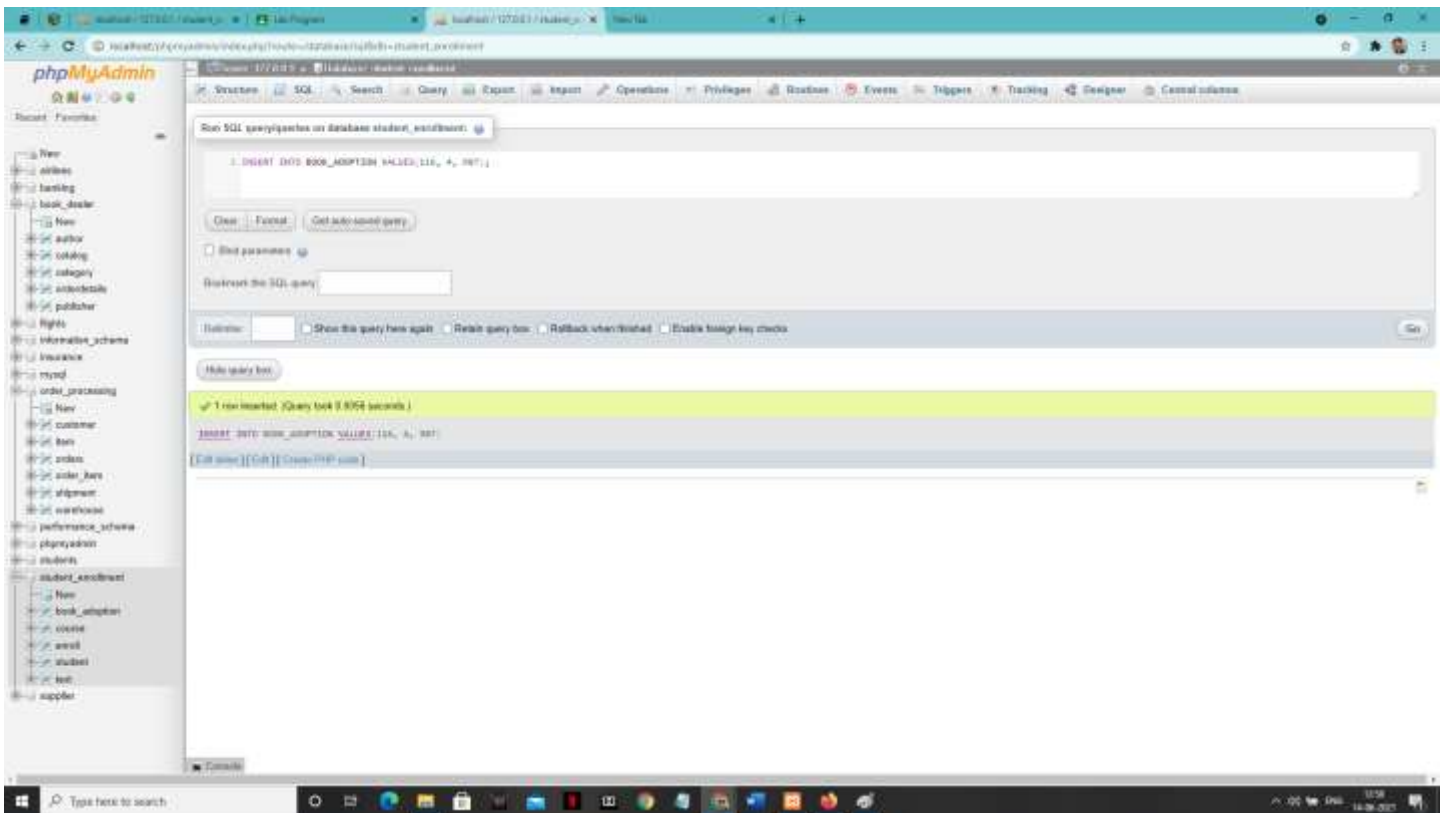
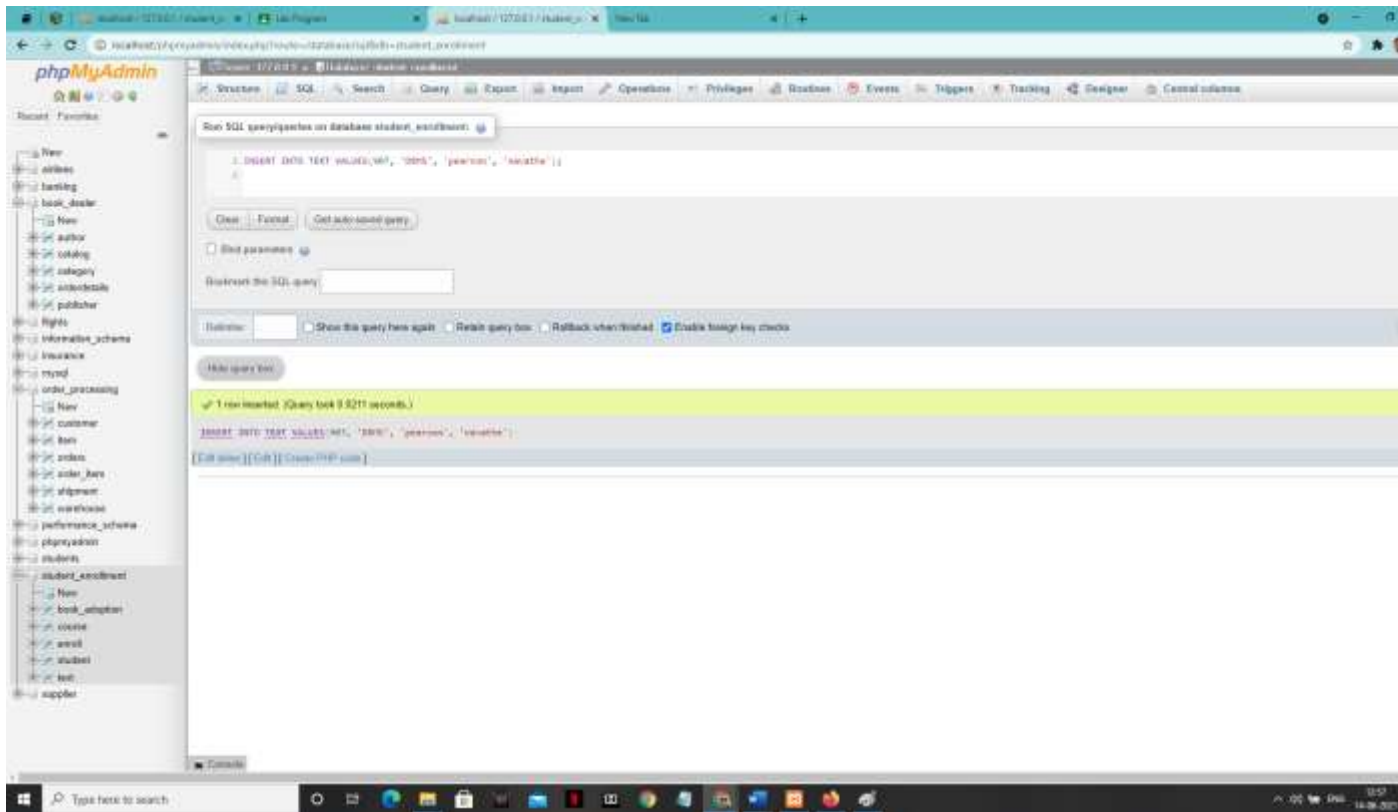


'TEXT' table:



SOLUTION

1:-





phpMyAdmin

Showing rows 6 - 6 (9 total, Query took 0.0014 seconds)

SELECT \* FROM `book`

Options

|                          |      |      |        |     | book_id          | book_title | publisher | author |
|--------------------------|------|------|--------|-----|------------------|------------|-----------|--------|
| <input type="checkbox"/> | 2.00 | Copy | Delete | 18  | DATABASE SYSTEMS | PEARSON    | SCHIELD   |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 308 | OPERATING SYSTEM | PEARSON    | LELAND    |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 901 | COURTS           | HALL IRWIN | BOB       |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 902 | SYSTEM SOFTWARE  | PETERSON   | JACOB     |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 903 | SCHEDULING       | PEARSON    | PAUL      |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 904 | DATABASE SYSTEMS | PEARSON    | JACOB     |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 905 | DATABASE MANAGER | PEARSON    | BOB       |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 906 | SIGNALS          | HALL IRWIN | STREET    |        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 907 | ODMS             | pearson    | martha    |        |

Query results operations

Bookmark this SQL query

Label  ☐ Let only user access this bookmark

Bookmark this SQL query

phpMyAdmin

Showing rows 6 - 6 (9 total, Query took 0.0011 seconds)

SELECT \* FROM `book\_adapter`

Options

|                          |      |      |        |     | book_id | book_title |
|--------------------------|------|------|--------|-----|---------|------------|
| <input type="checkbox"/> | 2.00 | Copy | Delete | 111 | 5       | 900        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 111 | 5       | 901        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 111 | 5       | 904        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 112 | 3       | 901        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 113 | 3       | 90         |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 113 | 5       | 902        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 114 | 5       | 905        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 116 | 3       | 906        |
| <input type="checkbox"/> | 2.00 | Copy | Delete | 118 | 4       | 907        |

Query results operations

Bookmark this SQL query

Label  ☐ Let only user access this bookmark

Bookmark this SQL query

2:-

phpMyAdmin interface showing a SQL query execution result. The query is:

```
SELECT c.course_id, t.book_id, t.book_title FROM course c, book_adoption ba, text t WHERE c.course_id=ba.course_id AND ba.book_id=t.book_id AND c dept='ISM' AND 3= (SELECT COUNT(book_id) FROM book_adoption b WHERE c.course_id=b.course_id) ORDER BY t.book_title
```

The query results are displayed in a table:

| Options | book_id | book_title       |
|---------|---------|------------------|
| 111     | 304     | DATABASE SYSTEMS |
| 111     | 306     | OPERATING SYSTEM |
| 111     | 305     | SCHEDULING       |

3:-