

## 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.

```
CREATE DATABASE student_enrollment;
```

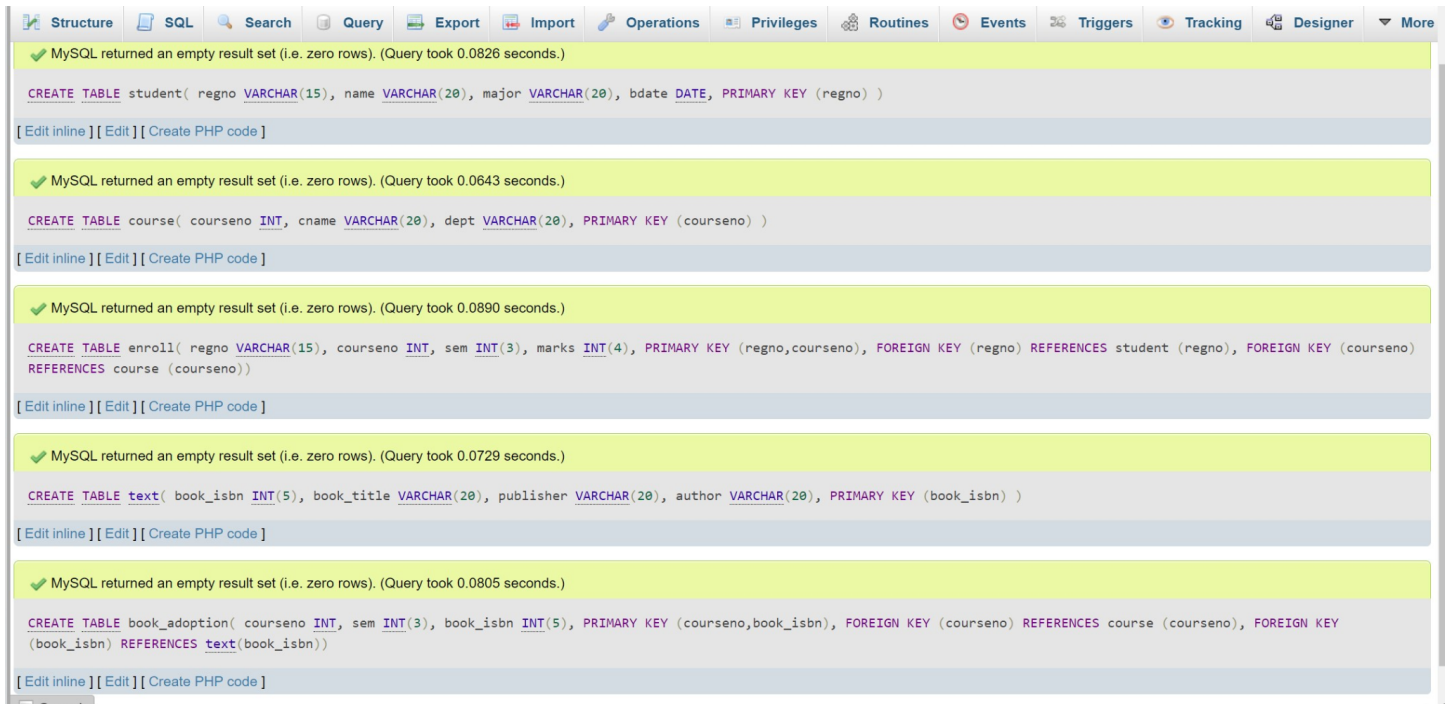
```
CREATE TABLE student(  
    regno VARCHAR(15),  
    name VARCHAR(20),  
    major VARCHAR(20),  
    bdate DATE,  
    PRIMARY KEY (regno) );
```

```
CREATE TABLE course(  
    curso INT,  
    cname VARCHAR(20),  
    dept VARCHAR(20),  
    PRIMARY KEY (curso) );
```

```
CREATE TABLE enroll(  
    regno VARCHAR(15),  
    curso INT,  
    sem INT(3),  
    marks INT(4),  
    PRIMARY KEY (regno,curso),  
    FOREIGN KEY (regno) REFERENCES student (regno),  
    FOREIGN KEY (curso) REFERENCES course (curso));
```

```
CREATE TABLE text(  
    book_isbn INT(5),  
    book_title VARCHAR(20),  
    publisher VARCHAR(20),  
    author VARCHAR(20),  
    PRIMARY KEY (book_isbn) );
```

```
CREATE TABLE book_adoption(  
    curso INT,  
    sem INT(3),  
    book_isbn INT(5),  
    PRIMARY KEY (curso,book_isbn),  
    FOREIGN KEY (curso) REFERENCES course (curso),  
    FOREIGN KEY (book_isbn) REFERENCES text(book_isbn));
```



ii. Enter at least five tuples for each relation.

INSERT INTO student (regno,name,major,bdate) VALUES  
('1PE11CS001','a','sr','19931230'),  
('1PE11CS002','b','sr','19930924'),  
('1PE11CS003','c','sr','19931127'),  
('1PE11CS004','d','sr','19930413'),  
('1PE11CS005','e','jr','19940824');

INSERT INTO course VALUES  
(111,'OS','CSE'),  
(112,'EC','CSE'),  
(113,'SS','ISE'),  
(114,'DBMS','CSE'),  
(115,'SIGNALS','ECE');

INSERT INTO text VALUES  
(10,'DATABASE SYSTEMS','PEARSON','SCHIELD'),  
(900,'OPERATING SYS','PEARSON','LELAND'),  
(901,'CIRCUITS','HALL INDIA','BOB'),  
(902,'SYSTEM SOFTWARE','PETERSON','JACOB'),  
(903,'SCHEDULING','PEARSON','PATIL'),  
(904,'DATABASE SYSTEMS','PEARSON','JACOB'),  
(905,'DATABASE MANAGER','PEARSON','BOB');

INSERT INTO enroll (regno,courseno,sem,marks) VALUES  
('1pe11cs001',115,3,100),  
('1pe11cs002',114,5,100),  
('1pe11cs003',113,5,100),

```
('1pe11cs004',111,5,100),
('1pe11cs005',112,3,100);
```

```
INSERT INTO book_adoption (courseno,sem,book_isbn) VALUES
(111,5,900),
(111,5,903),
(111,5,904),
(112,3,901),
(113,3,10),
(114,5,905),
(113,5,902);
```

iii. Demonstrate how you add a new text book to the database and make this book be adopted by some department.

```
INSERT INTO text VALUES (906,'SIGNALS','HALL INDIA','SUMIT');
INSERT INTO book_adoption VALUES (115,3,906);
```

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.

```
SELECT c.courseno,t.book_isbn,t.book_title FROM course c,book_adoption ba,text t
WHERE c.courseno=ba.courseno AND ba.book_isbn=t.book_isbn
AND c.dept='CSE' AND 2<(SELECT COUNT(book_isbn) FROM book_adoption b
WHERE c.courseno=b.courseno)
ORDER BY t.book_title;
```

+ Options		
courseno	book_isbn	book_title
111	904	DATABASE SYSTEMS
111	900	OPERATING SYS
111	903	SCHEDULING

v. List any department that has all its adopted books published by a specific publisher.

```
SELECT DISTINCT c.dept FROM course c
WHERE c.dept IN (SELECT c.dept FROM course c,book_adoption b,text t
WHERE c.courseno=b.courseno AND t.book_isbn=b.book_isbn
AND t.publisher='PEARSON');
```

+ Options				
				dept
<input type="checkbox"/>	Edit	Copy	Delete	CSE
<input type="checkbox"/>	Edit	Copy	Delete	ISE