

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0020 seconds.)

```
use studentenrollment
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.5680 seconds.)

```
CREATE TABLE student( regno VARCHAR(10) PRIMARY KEY, name VARCHAR(20), major VARCHAR(20), bdate DATE )
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1630 seconds.)

```
CREATE TABLE course( courseno INT , cname VARCHAR(20) UNIQUE, dept VARCHAR(20), PRIMARY KEY(courseno) )
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2480 seconds.)

```
CREATE TABLE enroll( regno VARCHAR(10), cname VARCHAR(20), sem INT, marks INT, FOREIGN KEY (regno) REFERENCES student(regno) on delete cascade on UPDATE CASCADE , FOREIGN KEY (cname) REFERENCES course(cname) on delete cascade on UPDATE CASCADE )
```

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✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1600 seconds.)

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

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✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2080 seconds.)

```
CREATE TABLE book_adoption( courseno INT, sem INT, book_isbn INT(5), FOREIGN KEY (courseno) REFERENCES course (courseno) on DELETE CASCADE on UPDATE CASCADE, FOREIGN KEY (book_isbn) REFERENCES text_book(book_isbn) on DELETE CASCADE on UPDATE CASCADE )
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

Table ▲	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> book_adoption	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
<input type="checkbox"/> course	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<input type="checkbox"/> enroll	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
<input type="checkbox"/> student	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> text_book	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	160.0 KiB	0 B

















ii. Enter at least five tuples for each relation.

✓ 6 rows inserted. (Query took 0.1110 seconds.)

```
INSERT INTO student VALUES ('1BM19CS182','Ross','sr','2001-03-02'), ('1BM19CS120','Rachel','sr','2001-02-03'),  
('1BM19CS147','Chandler','sr','2001-10-10'), ('1BM19CS002','Monica','jr','2001-01-09'), ('1BM19CS019','Joey','jr','2001-07-20'),  
('1BM19CS200','Phoebe','jr','2001-02-01')
```

[Edit inline] [Edit] [Create PHP code]

+ Options





				regno	name	major	bdate
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS002	Monica	jr	2001-01-09
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS019	Joey	jr	2001-07-20
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS120	Rachel	sr	2001-02-03
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS147	Chandler	sr	2001-10-10
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS182	Ross	sr	2001-03-02
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS200	Phoebe	jr	2001-02-01

✓ 5 rows inserted. (Query took 0.0920 seconds.)

```
INSERT INTO course VALUES (101,'OS','CSE'), (102,'DS','CSE'), (103,'JAVA','ISE'), (104,'DBMS','CSE'), (105,'EC','ECE')
```

[Edit inline] [Edit] [Create PHP code]

+ Options

				courseno	cname	dept
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	OS	CSE
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	DS	CSE
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	JAVA	ISE
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	DBMS	CSE
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	EC	ECE



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✓ 6 rows inserted. (Query took 0.0900 seconds.)

```
INSERT INTO enroll VALUES ('1BM19CS002','JAVA',3,100), ('1BM19CS019','DBMS',3,100), ('1BM19CS120','JAVA',5,100),  
('1BM19CS147','OS',5,100), ('1BM19CS147','DS',5,100), ('1BM19CS182','OS',5,100)
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

+ Options

regno	cname	sem	marks
1BM19CS002	JAVA	3	100
1BM19CS019	DBMS	3	100
1BM19CS120	JAVA	5	100
1BM19CS147	OS	5	100
1BM19CS147	DS	5	100
1BM19CS182	OS	5	100

✓ 8 rows inserted. (Query took 0.1230 seconds.)




























```
INSERT INTO text_book VALUES (903,'SCHEDULING','PEARSON','PATIL'), (900,'OPERATING SYS','PEARSON','LELAND'), (901,'CIRCUITS','HALL INDIA','BOB'), (902,'JAVA','PETERSON','JACOB'), (904,'DATABASE SYSTEMS','PEARSON','JACOB'), (905,'DATABASE MANAGER','PEARSON','BOB'), (906,'Basics of EC','HALL INDIA','SUMIT'), (910,'DATABASE SYSTEMS','PEARSON','SCHIELD')
```

[Edit inline] [Edit] [Create PHP code]

✓ 1 row inserted. (Query took 0.0750 seconds.)

```
INSERT INTO `text_book` VALUES (999,'DS Simplified','Pearson','Sharma')
```

[Edit inline] [Edit] [Create PHP code]

				book_isbn	book_title	publisher	author
<input type="checkbox"/>	 Edit	 Copy	 Delete	900	OPERATING SYS	PEARSON	LELAND
<input type="checkbox"/>	 Edit	 Copy	 Delete	901	CIRCUITS	HALL INDIA	BOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	902	JAVA	PETERSON	JACOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	903	SCHEDULING	PEARSON	PATIL
<input type="checkbox"/>	 Edit	 Copy	 Delete	904	DATABASE SYSTEMS	PEARSON	JACOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	905	DATABASE MANAGER	PEARSON	BOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	906	BASICS OF EC	HALL INDIA	SUMIT
<input type="checkbox"/>	 Edit	 Copy	 Delete	910	DATABASE SYSTEMS	PEARSON	SCHIELD
<input type="checkbox"/>	 Edit	 Copy	 Delete	999	DS Simplified	Pearson	Sharma

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✓ 9 rows inserted. (Query took 0.0760 seconds.)

```
INSERT INTO book_adoption VALUES (101,5,900), (101,5,903), (104,5,904), (104,3,910), (103,3,902), (104,5,905), (103,5,902), (105,3,906), (102,5,999)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

+ Options

courseno	sem	book_isbn
101	5	900
101	5	903
104	5	904
104	3	910
103	3	902
104	5	905
103	5	902
105	3	906
102	5	999

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

✓ 1 row inserted. (Query took 0.0740 seconds.)

```
INSERT INTO `book_adoption` VALUES (102,3,955)
```

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✓ 1 row inserted. (Query took 0.0480 seconds.)

```
insert into text_book values(955,'Seriously DS','Pearson','Shashank')
```

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✓ Showing rows 0 - 9 (10 total, Query took 0.0020 seconds.)

`SELECT * FROM `text_book``

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]































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Number of rows: 25 ▼

Filter rows:

Sort by key: None ▼

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				book_isbn	book_title	publisher	author
<input type="checkbox"/>	 Edit	 Copy	 Delete	900	OPERATING SYS	PEARSON	LELAND
<input type="checkbox"/>	 Edit	 Copy	 Delete	901	CIRCUITS	HALL INDIA	BOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	902	JAVA	PETERSON	JACOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	903	SCHEDULING	PEARSON	PATIL
<input type="checkbox"/>	 Edit	 Copy	 Delete	904	DATABASE SYSTEMS	PEARSON	JACOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	905	DATABASE MANAGER	PEARSON	BOB
<input type="checkbox"/>	 Edit	 Copy	 Delete	906	BASICS OF EC	HALL INDIA	SUMIT
<input type="checkbox"/>	 Edit	 Copy	 Delete	910	DATABASE SYSTEMS	PEARSON	SCHIELD
<input type="checkbox"/>	 Edit	 Copy	 Delete	955	Seriously DS	Pearson	Shashank
<input type="checkbox"/>	 Edit	 Copy	 Delete	999	DS Simplified	Pearson	Sharma



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✓ Showing rows 0 - 9 (10 total, Query took 0.0030 seconds.) [courseno: 105... - 101...]

```
SELECT * FROM `book_adoption` ORDER BY `courseno` DESC
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all

Number of rows:

25



Filter rows:

Search this table

Sort by key:

courseno (DESC)



+ Options

courseno ▼ 1

courseno	sem	book_isbn
105	3	906
104	5	905
104	3	910
104	5	904
103	3	902
103	5	902
102	3	955
102	5	999
101	5	903
101	5	900

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.

✓ Showing rows 0 - 2 (3 total, Query took 0.0110 seconds.) [book_title: DATABASE MANAGER... - DATABASE SYSTEMS...]

```
SELECT c.courseno,tb.book_isbn,tb.book_title FROM course c,book_adoption ba,text_book tb WHERE c.courseno=ba.courseno AND
ba.book_isbn=tb.book_isbn AND c.dept='CSE' AND ( SELECT COUNT(book_isbn) FROM book_adoption b WHERE c.courseno=b.courseno)>2 ORDER BY
tb.book_title
```


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

+ Options


courseno	book_isbn	book_title ▲ 1
104	905	DATABASE MANAGER
104	904	DATABASE SYSTEMS
104	910	DATABASE SYSTEMS

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


 Showing rows 0 - 0 (1 total, Query took 0.0160 seconds.)




```
SELECT DISTINCT cc.dept FROM course cc WHERE cc.dept IN ( SELECT c.dept FROM course c,book_adoption b,text_book tb WHERE c.courseno=b.courseno AND tb.book_isbn=b.book_isbn AND tb.publisher='PEARSON') AND cc.dept NOT IN (SELECT c1.dept FROM course c1,book_adoption b1,text_book tb1 WHERE c1.courseno=b1.courseno AND tb1.book_isbn=b1.book_isbn AND tb1.publisher != 'PEARSON')
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

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

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