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1BM19CS218
SECTION-CSE-4A

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 DATABASE COLLEGE;

USE COLLEGE;


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


CREATE TABLE course(
    courseno INT,
    cname VARCHAR(20),
```

```
    dept VARCHAR(20),
    PRIMARY KEY (courseno) );
    select * from course;
CREATE TABLE enroll(
    regno VARCHAR(15),
    courseno INT,
    sem INT(3),
    marks INT(4),
    PRIMARY KEY (regno,courseno),
    FOREIGN KEY (regno) REFERENCES student (regno),
    FOREIGN KEY (courseno) REFERENCES course (courseno) );

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(
    courseno INT,
    sem INT(3),
    book_isbn INT(5),
    PRIMARY KEY (courseno,book_isbn),
    FOREIGN KEY (courseno) REFERENCES course (courseno),
    FOREIGN KEY (book_isbn) REFERENCES text(book_isbn) );


INSERT INTO student (regno,sname,major,bdate) VALUES
```

```
    ('1pe11cs002','b','sr','19930924'),
    ('1pe11cs003','c','sr','19931127'),
    ('1pe11cs004','d','sr','19930413'),
    ('1pe11cs005','e','jr','19940824');
 INSERT INTO student (regno,sname,major,bdate) VALUES
    ('1pe11cs001','a','jr','19930922');
select * from student;

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'),
    (906,'SIGNALS','HALL INDIA','SUMIT');


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),

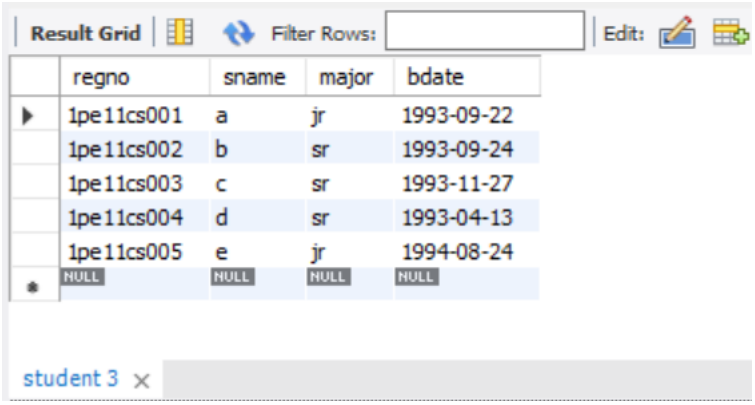
(113,3,10),

(114,5,905),

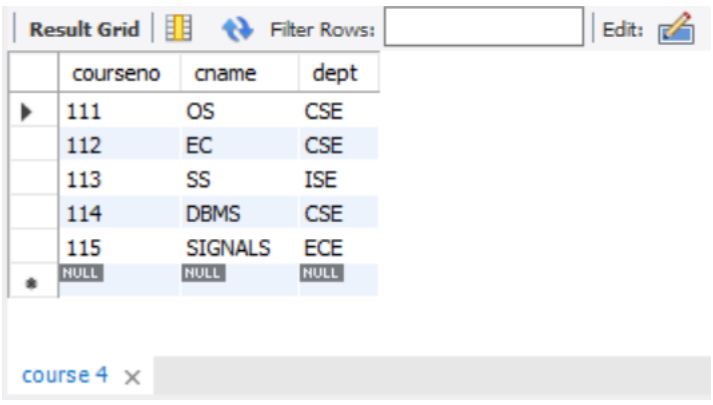
(113,5,902),

(115,3,906);

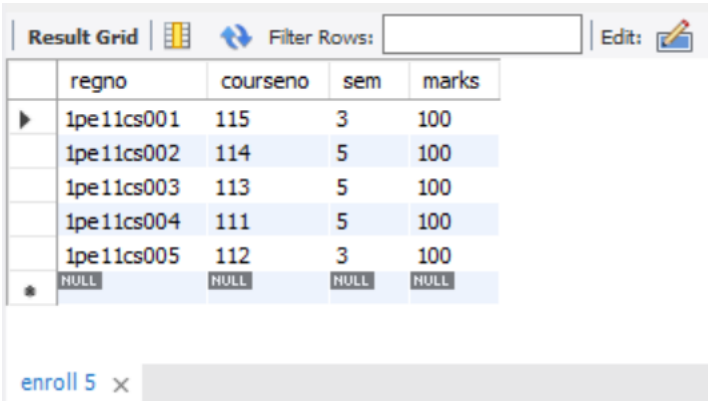
select * from student;



select * from course;



select * from enroll;

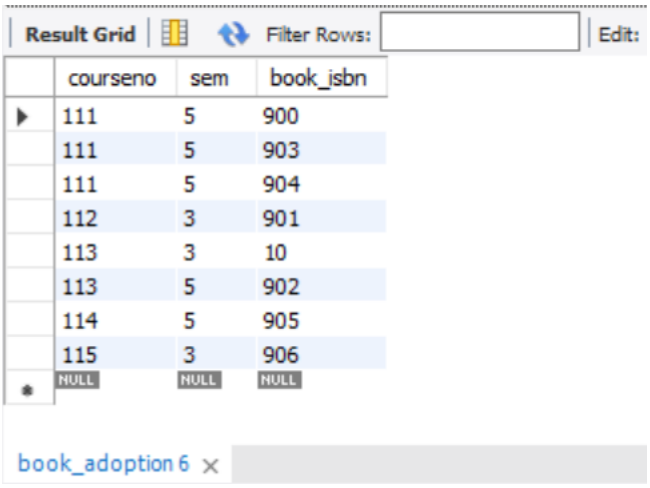


Result Grid | Filter Rows: | Edit:

regno	courseno	sem	marks
1pe11cs001	115	3	100
1pe11cs002	114	5	100
1pe11cs003	113	5	100
1pe11cs004	111	5	100
1pe11cs005	112	3	100
NULL	NULL	NULL	NULL

enroll 5 ×

select * from book_adoption;

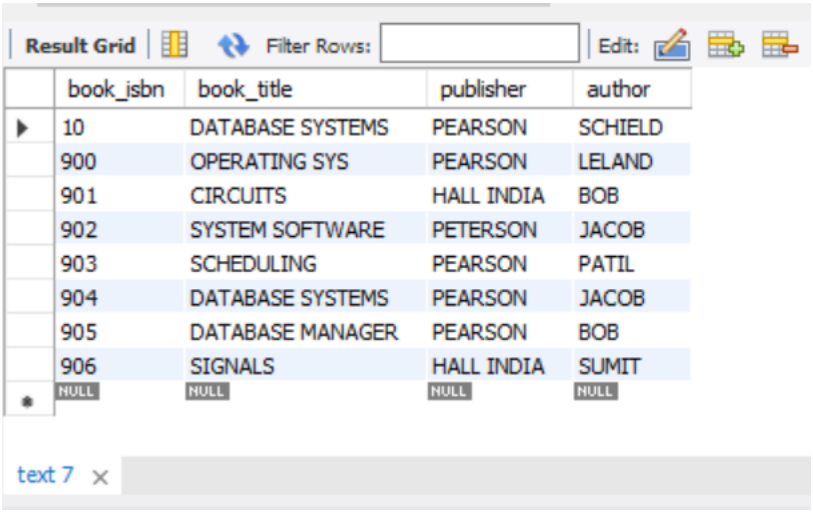


Result Grid | Filter Rows: | Edit:

courseno	sem	book_isbn
111	5	900
111	5	903
111	5	904
112	3	901
113	3	10
113	5	902
114	5	905
115	3	906
NULL	NULL	NULL

book_adoption 6 ×

select * from text;



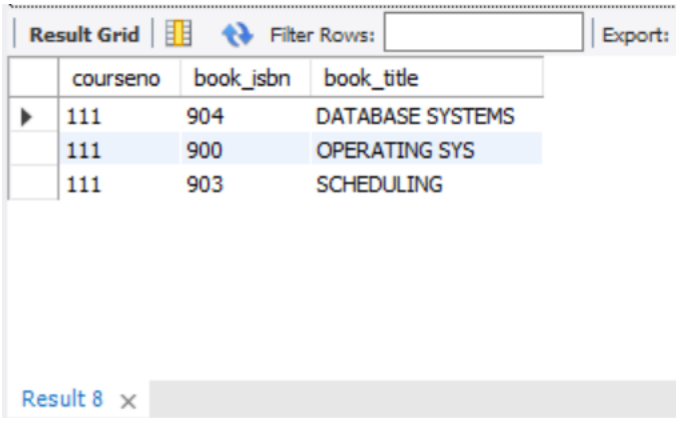
Result Grid | Filter Rows: | Edit:

book_isbn	book_title	publisher	author
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
906	SIGNALS	HALL INDIA	SUMIT
NULL	NULL	NULL	NULL

text 7 ×

4. 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;
```



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

```
select c.dept
from course c, book_adoption ba
where c.courseno=ba.courseno
group by c.dept
having count(ba.book_isbn)=(select count(ba2.book_isbn)
```

from text t,book_adoption ba2,course c2

where t.book_isbn=ba2.book_isbn and c2.courseno=ba2.courseno and t.publisher='HALL INDIA' and c2.dept=c.dept);