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5. Consider the following database of student enrolment in courses and books adopted each course.

STUDENT(regno: string, name: string, major: string, bdate: date)
COURSE(course: int, cname: string, dept: string)
ENROLL(# regno: string, course#: int, sem: int, marks: int)
TEXT(book-ISBN: int, book-title: string, publisher: string, author: string)
Book-ADOPTION(course#: int, sem: int, book-ISBN#: int)

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

→ create table STUDENT(reg-no varchar(50) primary key, name varchar(50), major varchar(50), bdate date);

→ create table COURSE(course int(10) primary key, cname varchar(50), dept varchar(50));

→ create table ENROLL(reg-no varchar(50), foreign key (reg-no) references STUDENT(reg-no), course int(10), foreign key (course) references COURSE(course), sem int(10) primary key, marks int(10));

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-> create table TEXT(book_ISBN int(10) primary key, book_title varchar(50), publisher varchar(50), author varchar(50));

-> create table Book_ADOPTION(course int(10), foreign key (course) references COURSE(course), sem int(10), foreign key(sem) references ENROLL(sem), book_ISBN int(10), foreign key(book_ISBN) references TEXT(book_ISBN));

ii. Enter at least five tuples for each relation

1. STUDENT

-> insert into STUDENT values('2tg08cs001','vijay','computers','1986-01-5');
insert into STUDENT values('2tg08cs002','neeta','computers','1986-02-5');
insert into STUDENT values('2tg08cs003','vinod','networking','1986-03-15');
insert into STUDENT values('2tg08cs004','harish','networking','1986-04-15');
insert into STUDENT values('2tg08s005','ankit','electronics','1986-10-15');
select * from STUDENT;

2. COURSE

-> insert into COURSE values(1,'bca','cs');
insert into COURSE values(2,'bcom','commerce');
insert into COURSE values(3,'be','cs');
insert into COURSE values(4,'be','Is');
insert into COURSE values(5,'bsc','cs');
select * from COURSE;

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DISPLAY TABLES

STUDENT

reg_no	name	major	bdate
2tg08cs001	vijay	Computers	1986-01-15
2tg08cs002	neeta	computers	1986-02-15
2tg08cs003	vinod	networking	1986-03-15
2tg08cs004	harish	networking	1986-04-15
2tg08cs005	ankit	electronics	1986-10-15

COURSE

course	cname	dept
1	bca	cs
2	bcom	Commerce
3	be	cs
4	be	IS
5	bsc	cs

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3. ENROLL

→ insert into ENROLL values ('2tg08cs001', 1, 2, 95);
insert into ENROLL value ('2tg08cs002', 2, 4, 85);
insert into ENROLL values ('2tg08cs003', 3, 5, 86);
insert into ENROLL values ('2tg08cs004', 4, 7, 92);
insert into ENROLL values ('2tg08cs005', 5, 6, 98);
select * from ENROLL;

4. TEXT

→ insert into TEXT values (111, 'c++', 'Pearson', 'Pertrick');
insert into TEXT values (222, 'Java', 'tata', 'robert');
insert into TEXT values (333, 'Unix', 'tata', 'lene');
insert into TEXT values (444, 'c', 'pearson', 'john');
insert into TEXT values (555, 'j2ee', 'tata', 'james');
select * from TEXT;

5. BOOK-ADOPTION

→ insert into BOOK_ADOPTION values (1, 2, 111);
insert into BOOK-ADOPTION values (2, 7, 444);
insert into BOOK-ADOPTION values (3, 4, 222);
insert into BOOK-ADOPTION values (5, 6, 333);
insert into BOOK-ADOPTION values (5, 2, 555);
select * from BOOK-ADOPTION;

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ENROLL

reg.no	course	sem	marks
2tg08cs001	1	2	95
2tg08cs002	2	4	85
2tg08cs003	3	5	86
2tg08cs004	4	7	92
2tg08cs005	5	6	98

TEXT

book-ISBN	book-title	Publisher	author
111	C++	Pearson	Pestrick
222	Java	tata	robert
333	Unix	tata	lene
444	C	Pearson	John
555	Jzee	tata	James

BOOK_ADOPTION

course	sem	book-ISBN
1	2	111
2	7	444
3	4	222
5	6	333
5	2	555

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

→ insert into TEXT values(666, 'ada', 'tata', 'clenheniy');

→ insert into Book-ADOPTION values(5, 2, 666);

iv) Produce list of textbooks (include Course#, Book-ISBN, Book-title) in the alphabetical order for courses offered by the cs department that use more than two books.

→ select b.course, t.book-ISBN, t.book-title from BOOK-ADOPTION b, TEXT t, COURSE c where c.course = b.course and c.dept = 'cs' and b.book-ISBN = t.book-ISBN and c.course in (select course from Book-ADOPTION group by course having count(*) >= 2) orderby t.book-title;

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iii)

select * from TEXT

book-ISBN	book-title	Publisher	author
111	c++	Pearson	Perbrick
222	Java	tata	robert
333	unix	tata	lene
444	C	Pearson	john
555	izee	tata	james
666	ada	tata	clenheiy

select * from Book-ADOPION

course	sem	book-ISBN
1	2	111
2	7	444
3	4	222
5	6	333
5	2	555
5	2	666

iv)

course	book-ISBN	book-title
5	666	ada
5	555	izee
5	333	unix

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

→ select c.dept from COURSE c, TEXT t, BOOK_ADOPTION b where t.publisher = "pearson" and c.course = b.course and b.book_ISBN = t.book_ISBN;

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