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

STUDENT (regno: string, name: string, major string, bdate:date).
COURSE (course no:int, cname:string, dept:string)
ENROLL (regno:string, course no:int, sem:int, marks:int)
TEXT (book ISBN:int, booktitle: string, publisher: string, author: string)
BOOKADOPTION (course no: int, sem:int, book ISBN:int)

1. Create the above tables by properly specifying the primary keys and the foreign keys.
2. Enter at least five tuples for each relation.
3. Demonstrate how you add a new text book to the database and make this book be adopted by some department.
4. Produce a list of text books (include Course no, Book_ISBN, Book title) in the alphabetical order for courses offered by the 'CS' department that use more than two books.
5. List any department that has all its adopted books published by a specific publisher.

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

```
1. CREATE TABLE STUDENT (REG_NO VARCHAR(10),NAME VARCHAR(10),MAJOR CHAR(2) CHECK(MAJOR IN ('CS','IS','EC','EE','TE','ME','CV','ML')),BDATE DATE,PRIMARY KEY(REG_NO));
2. CREATE TABLE COURSE (COURSE_NO INT,CNAME VARCHAR(10),DEPT CHAR(2)CHECK(DEPT IN ('CS','IS','EC','EE','TE','ME','CV','ML')),PRIMARY KEY(COURSE_NO));
3. CREATE TABLE ENROLL (REG_NO VARCHAR(10),COURSE_NO INT,SEM INT CHECK(SEM>0 AND SEM<9),MARKS INT, PRIMARY KEY(REG_NO,COURSE_NO), FOREIGN KEY(REG_NO) REFERENCES STUDENT (REG_NO), FOREIGN KEY(COURSE_NO) REFERENCES COURSE(COURSE_NO));
4. CREATE TABLE TEXT (BOOK_ISBN INT,BOOK_TITLE VARCHAR(20),PUBLISHER VARCHAR(20),AUTHOR VARCHAR(10),PRIMARY KEY(BOOK_ISBN));
5. CREATE TABLE BOOK_ADOPTION (COURSE_NO INT ,SEM INT CHECK(SEM>0 AND SEM<9),BOOK_ISBN INT,PRIMARY KEY(COURSE_NO,BOOK_ISBN), FOREIGN KEY(COURSE_NO) REFERENCES COURSE (COURSE_NO), FOREIGN KEY(BOOK_ISBN) REFERENCES TEXT (BOOK_ISBN));
```

2. Enter at least five tuples for each relation

STUDENT:

```
1. INSERT INTO STUDENT VALUES('18CS400','BANU','CS',19950928);
2. INSERT INTO STUDENT VALUES('18IS401','BINDU','IS', 19950112);
3. INSERT INTO STUDENT VALUES('18EC402','KIRAN','EC', 19950212);
4. INSERT INTO STUDENT VALUES('18ME403','MADHU','ME', '19951204);
5. INSERT INTO STUDENT VALUES('18IS404','RAMESH','IS', 19951225);
```

COURSE:

```
1. INSERT INTO COURSE VALUES (14,'C++','CS');
2. INSERT INTO COURSE VALUES(1,'NET','CS');
3.  INSERT INTO COURSE VALUES(2,'J2EE','CS');
4.  INSERT INTO COURSE VALUES(3,'MIS','IS');
5. INSERT INTO COURSE VALUES(4,'FS','IS');
6.  INSERT INTO COURSE VALUES(5,'ORACLE','IS');
```

7. INSERT INTO COURSE VALUES(10,'DBMS','CS');
8. INSERT INTO COURSE VALUES(11,'JAVA','IS');
9. INSERT INTO COURSE VALUES(12,'M3','CS');
10. INSERT INTO COURSE VALUES(13,'DS','IS');

ENROLL:

1. INSERT INTO ENROLL VALUES ('18CS400',10,'4',60);
2. INSERT INTO ENROLL VALUES ('18IS401',11,'4',90);
3. INSERT INTO ENROLL VALUES ('18EC402',12,'3',75);
4. INSERT INTO ENROLL VALUES ('18ME403',13,'5',55);
5. INSERT INTO ENROLL VALUES ('18IS404',14,'4',80);
6. INSERT INTO ENROLL VALUES('18CS042',1,6,98);
7. INSERT INTO ENROLL VALUES('18CS048',2,6,97);
8. INSERT INTO ENROLL VALUES('18EC026',5,5,50);
9. INSERT INTO ENROLL VALUES('18EE042',4,4,80);
10. INSERT INTO ENROLL VALUES('18IS048',1,6,35);

TEXT:

1. INSERT INTO TEXT VALUES(11230,'SOUNDS_GOOD','INDIAN_EXPRESS','M.P.SHANKAR');
2. INSERT INTO TEXT VALUES(11231,'ART_OF_LIVING','TIMES','SWAMINITYA');
3. INSERT INTO TEXT VALUES(11232,'KINGMAKER','KANNADAPRESS','SIR.M.V.');
4. INSERT INTO TEXT VALUES(11233,'BE_A_MASTER','ENGLISHMEDIA','JOHNKENLEY');
5. INSERT INTO TEXT VALUES(11234,'CIRCKET','BBCI_INDIA','SACHIN');
6. INSERT INTO TEXT VALUES(101,'LET US C','LPE','RAJU');
7. INSERT INTO TEXT VALUES(102,'C++','TMG','PREETHAM');
8. INSERT INTO TEXT VALUES(103,'ORACLE','PEARSON','GOUTHAM');
9. INSERT INTO TEXT VALUES(104,'.NET','LPE','MOHAN');
10. INSERT INTO TEXT VALUES(105,'J2EE','PEARSON','NIKHIL');

BOOK_ADOPTION:

1. INSERT INTO BOOK_ADOPTION VALUES (10,4,11230);
2. INSERT INTO BOOK_ADOPTION VALUES (11,3,11231);
3. INSERT INTO BOOK_ADOPTION VALUES (12,5,11232);
4. INSERT INTO BOOK_ADOPTION VALUES (13,4,11233);
5. INSERT INTO BOOK_ADOPTION VALUES (14,3,11232);
6. INSERT INTO BOOK_ADOPTION VALUES (14,5,11234);
7. INSERT INTO BOOK_ADOPTION VALUES(1,6,101);
8. INSERT INTO BOOK_ADOPTION VALUES(2,6,103);
9. INSERT INTO BOOK_ADOPTION VALUES(3,5,102);
10. INSERT INTO BOOK_ADOPTION VALUES(4,4,104);
11. INSERT INTO BOOK_ADOPTION VALUES(5,6,105);

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

1. INSERT INTO TEXT VALUES(106,'CG','SAPNA','GODSE');
   SELECT * FROM TEXT;

Book Adopted by some department:

1. INSERT INTO BOOK_ADOPTION VALUES (5,6,106);
   SELECT * FROM BOOK_ADOPTION;

4. Produce a list of text books (include Course no, Book_ISBN, Book title) in the alphabetical order for courses offered by the 'CS' department that use more than two books

```
select c.course_no,t.book_isbn,t.book_title
from course c,text t,book_adoption b
where c.course_no=b.course_no and b.book_isbn=t.book_isbn and c.dept='cs' and
c.course_no in (select course_no
          from book_adoption
          group by course_no
          having count(*)>=2)
         group by c.course_no,t.book_title,t.book_isbn
         order by c.course_no,t.book_title;
```

OUTPUT:

COURSE_NO	BOOK_ISBN	BOOK_TITLE
1	104	.NET
1	105	J2EE
5	106	CG
5	105	J2EE
12	11235	ENGLAND
12	11232	KINGMAKER
14	11234	CIRCKET
14	11232	KINGMAKER

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

```
select c.dept
from course c,text t,book_adoption b
where c.course_no=b.course_no and b.book_isbn=t.book_isbn and t.book_isbn
in ( select book_isbn
   from text
   where publisher='pearson');
```

OUTPUT:

DEPT
CS
IS
CS