

```
drop database if exists enrollment;
```

```
create database enrollment;
```

```
use enrollment;
```

```
create table Student(  
    regno varchar(13) primary key,  
    name varchar(25) not null,  
    major varchar(25) not null,  
    bdate date not null  
);
```

```
create table Course(  
    course int primary key,  
    cname varchar(30) not null,  
    dept varchar(100) not null  
);
```

```
create table Enroll(  
    regno varchar(13),  
    course int,  
    sem int not null,  
    marks int not null,  
    foreign key(regno) references Student(regno) on delete cascade,  
    foreign key(course) references Course(course) on delete cascade  
);
```

```
create table TextBook(  
    bookIsbn int not null,  
    book_title varchar(40) not null,  
    publisher varchar(25) not null,  
    author varchar(25) not null,  
    primary key(bookIsbn)  
);
```

```
create table BookAdoption(  
    course int not null,  
    sem int not null,  
    bookIsbn int not null,  
    foreign key(bookIsbn) references TextBook(bookIsbn) on delete cascade,  
    foreign key(course) references Course(course) on delete cascade  
);
```

```
INSERT INTO Student VALUES
```

```
("01HF235", "Student_1", "CSE", "2001-05-15"),  
("01HF354", "Student_2", "Literature", "2002-06-10"),  
("01HF254", "Student_3", "Philosophy", "2000-04-04"),  
("01HF653", "Student_4", "History", "2003-10-12"),  
("01HF234", "Student_5", "Computer Economics", "2001-10-10");
```

```
INSERT INTO Course VALUES
(001, "DBMS", "CS"),
(002, "Literature", "English"),
(003, "Philosophy", "Philosophy"),
(004, "History", "Social Science"),
(005, "Computer Economics", "CS");
```

```
INSERT INTO Enroll VALUES
("01HF235", 001, 5, 85),
("01HF354", 002, 6, 87),
("01HF254", 003, 3, 95),
("01HF653", 004, 3, 80),
("01HF234", 005, 5, 75);
```

```
INSERT INTO TextBook VALUES
(241563, "Operating Systems", "Pearson", "Silberschatz"),
(532678, "Complete Works of Shakespeare", "Oxford", "Shakesphere"),
(453723, "Immanuel Kant", "Delphi Classics", "Immanuel Kant"),
(278345, "History of the world", "The Times", "Richard Overy"),
(426784, "Behavioural Economics", "Pearson", "David Orrel");
```

```
INSERT INTO BookAdoption VALUES
(001, 5, 241563),
(002, 6, 532678),
(003, 3, 453723),
(004, 3, 278345),
(001, 6, 426784);
```

```
select * from Student;
```

regno	name	major	bdate
01HF234	Student_5	Computer Economics	2001-10-10
01HF235	Student_1	CSE	2001-05-15
01HF254	Student_3	Philosophy	2000-04-04
01HF354	Student_2	Literature	2002-06-10
01HF653	Student_4	History	2003-10-12

```
select * from Course;
```

course	cname	dept
1	DBMS	CS
2	Literature	English
3	Philosophy	Philosophy
4	History	Social Science
5	Computer Economics	CS

```
select * from Enroll;
```

regno	course	sem	marks
01HF235	1	5	85
01HF354	2	6	87
01HF254	3	3	95
01HF653	4	3	80
01HF234	5	5	75

```
select * from BookAdoption;
```

course	sem	bookIsbn
1	5	241563
2	6	532678
3	3	453723
4	3	278345
1	6	426784

```
select * from TextBook;
```

bookIsbn	book_title	publisher	author
241563	Operating Systems	Pearson	Silberschatz
278345	History of the world	The Times	Richard Overy
426784	Behavioural Economics	Pearson	David Orrel
453723	Immanuel Kant	Delphi Classics	Immanuel Kant
532678	Complete Works of Shakesphere	Oxford	Shakesphere

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

```
insert into TextBook values
```

```
(123456, "Chandan The Autobiography", "Pearson", "Chandan");
```

```
select * from TextBook;
```

bookIsbn	book_title	publisher	author
<b>123456</b>	<b>Chandan The Autobiography</b>	<b>Pearson</b>	<b>Chandan</b>
241563	Operating Systems	Pearson	Silberschatz
278345	History of the world	The Times	Richard Overy
426784	Behavioural Economics	Pearson	David Orrel
453723	Immanuel Kant	Delphi Classics	Immanuel Kant
532678	Complete Works of Shakesphere	Oxford	Shakesphere

insert into BookAdoption values  
(001, 5, 123456);

select \* from BookAdoption;

course	sem	bookIsbn
1	5	241563
2	6	532678
3	3	453723
4	3	278345
1	6	426784
<b>1</b>	<b>5</b>	<b>123456</b>

-- 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.course,t.bookIsbn,t.book_title
FROM Course c,BookAdoption ba,TextBook t
WHERE c.course=ba.course
AND ba.bookIsbn=t.bookIsbn
AND c.dept='CS'
AND 2<(
SELECT COUNT(bookIsbn)
FROM BookAdoption b
WHERE c.course=b.course)
ORDER BY t.book_title;
```

course	bookIsbn	book_title
1	426784	Behavioural Economics
1	123456	Chandan The Autobiography
1	241563	Operating Systems

-- 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,BookAdoption b,TextBook t
WHERE c.course=b.course
AND t.bookIsbn=b.bookIsbn
AND t.publisher='PEARSON')
AND c.dept NOT IN
( SELECT c.dept
FROM Course c, BookAdoption b, TextBook t
WHERE c.course=b.course
```

```
AND t.bookIsbn=b.bookIsbn
AND t.publisher!='PEARSON');
```

```
+-----+
| dept |
+-----+
| CS   |
+-----+
```

-- List the students who have scored maximum marks in 'DBMS' course.

```
select name from Student s, Enroll e, Course c
where s.regno=e.regno and e.course=c.course and c.cname="DBMS" and e.marks in (select
max(marks) from Enroll e1, Course c1 where c1.cname="DBMS" and c1.course=e1.course);
```

```
+-----+
| name      |
+-----+
| Student_1 |
+-----+
```

-- Create a view to display all the courses opted by a student along with marks obtained.

```
create view CoursesOptedByStudent as
select c.cname, e.marks from Course c, Enroll e
where e.course=c.course and e.regno="01HF235";
```

```
select * from CoursesOptedByStudent;
```

```
+-----+-----+
| cname | marks |
+-----+-----+
| DBMS  | 85    |
+-----+-----+
```

--Create a trigger that prevents a student from enrolling in a course if the marks pre\_requisit is less than the given threshold

```
DELIMITER //
create or replace trigger PreventEnrollment
before insert on Enroll
for each row
BEGIN
IF (new.marks<40) THEN
signal sqlstate '45000' set message_text='Marks below threshold';
END IF;
END;//
```

```
DELIMITER ;
INSERT INTO Enroll VALUES
("01HF235", 002, 5, 5);
```

```
select *from Enroll;
```

regno	course	sem	marks
01HF235	1	5	85
01HF354	2	6	87
01HF254	3	3	95
01HF653	4	3	80
01HF234	5	5	75
01HF235	2	5	5