USN:1BM19CS216
Name:Yashaswini Shah

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 textbooks (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 student_enrollment;
use student_enrollment;

-- i) creating table
create table student(
regno varchar(10) ,
name varchar(30),
major varchar(10),
bdate date,
constraint stu_reg primary key (regno)
);
create table course (
course int ,
cname varchar(30),
dept varchar (30),
constraint cou_cou primary key (course)
);
create table enroll (
regno varchar(10) ,
cname varchar (30),
sem int ,
marks int,
constraint en_reg foreign key (regno) references student(regno)
```

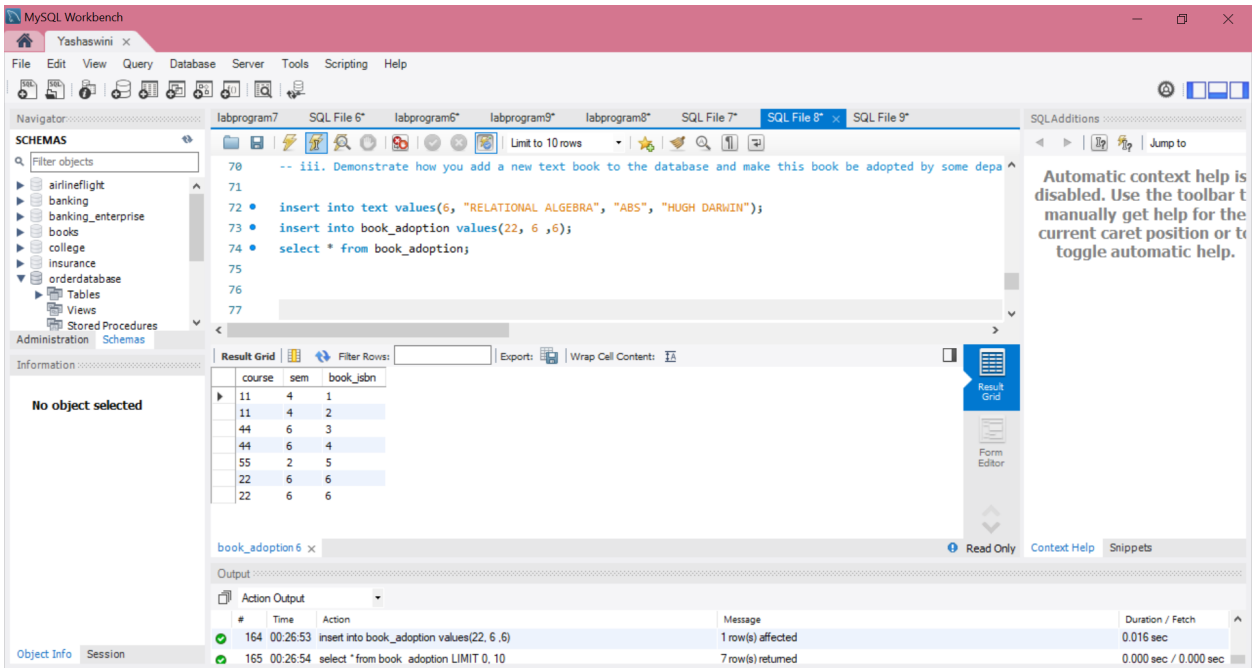
```
);
create table text (
book_isbn int,
book_title varchar(30),
publisher varchar(30),
author varchar (30),
constraint book_book primary key (book_isbn)
);
create table book_adoption (
course int,
sem int,
book_isbn int,
constraint book_cou foreign key (course)
references course(course) on delete cascade on update cascade ,
constraint book_book foreign key (book_isbn)
references text(book_isbn) on delete cascade on update cascade
);
```

-- ii. Inserting tuples

```
insert into student values("CS01", "PRANAV", "DS", "1986-03-12");
insert into student values("IS02", "PRATEEK", "USP", "1987-12-23");
insert into student values("EC03", "SAURAB", "SNS", "1985-04-17");
insert into student values("CS03", "ARKA", "DBMS", "1987-01-01");
insert into student values("TC05", "PRANSHU", "EC", "1986-10-06");
insert into course values(11,"DS","CS");
insert into course values(22,"USP","IS");
insert into course values(33,"SNS","EC");
insert into course values(44,"DBMS","CS");
insert into course values(55,"EC","TC");
insert into enroll values("CS01", 11, 4, 85);
insert into enroll values("IS02", 22, 6, 80);
insert into enroll values("EC03", 33, 2, 80);
insert into enroll values("CS03", 44, 6, 75);
insert into enroll values("TC05", 11, 4, 85);
insert into text values(1, "DS AND C", "PRINCETON","PADMA REDDY");
insert into text values(2, "FUNDAMENTALS OF DS", "SPRINGER", "GODSE");
insert into text values(3, "FUNDAMENTALS OF DBMS", "SPRINGER", "NAVATHE");
insert into text values(4, "SQL", "PRINCETON", "FOLEY");
insert into text values(5, "ELECTRONIC CIRCUITS", "TMH", "ELMASRI");
insert into book_adoption values(11, 4 ,1);
insert into book_adoption values(11, 4 ,2);
insert into book_adoption values(44, 6 ,3);
insert into book_adoption values(44, 6 ,4);
insert into book_adoption values(55, 2 ,5);
```

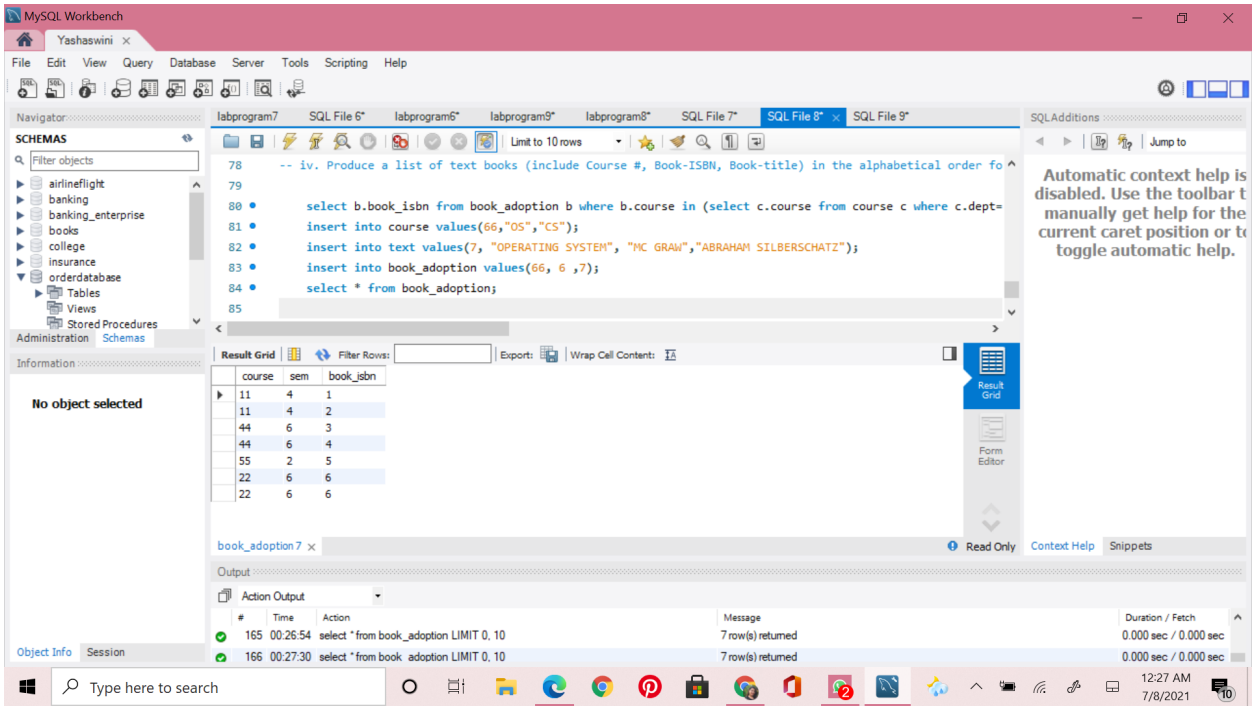
-- iii. Demonstrate how you add a new text book to the database and make this book be adopted by some department.

insert into text values(6, "RELATIONAL ALGEBRA", "ABS", "HUGH DARWIN");
insert into book_adoption values(22, 6 ,6);
select * from book_adoption;



-- 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.

select b.book_isbn from book_adoption b where b.course in (select c.course from course c where c.dept="CS") and (select count(*) from book_adoption be where be.course=b.course)>=2 ;
insert into course values(66,"OS","CS");
insert into text values(7, "OPERATING SYSTEM", "MC GRAW","ABRAHAM SILBERSCHATZ");
insert into book_adoption values(66, 6 ,7);
select * from book_adoption;



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

select distinct c.dept from course c where not exists (select t.book_isbn from text t where t.publisher="SPRINGER") not in (select b.book_isbN from book_adoption b where b.course in (select ce.course from course ce where ce.dept=c.dept));