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USN: 1BM19CS070
DATE: 26/05/21

DBMS LAB PROGRAM – 5

5.STUDENT ENROLLMENT DATABASE

QUESTION:

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.

PROGRAM CODE:

CREATE DATABASE STUDENT ENROLLMENT;

USE STUDENT ENROLLMENT;

CREATE TABLE STUDENT(REGNO VARCHAR(10), NAME VARCHAR(30), MAJOR VARCHAR(10), BDATE DATE, PRIMARY KEY(REGNO));

CREATE TABLE COURSE(COURSE_NO INT, CNAME VARCHAR(30), DEPT VARCHAR(4), PRIMARY KEY(COURSE NO));

CREATE TABLE ENROLL(REGNO VARCHAR(10), COURSE_NO INT, SEM INT, MARKS INT, FOREIGN KEY(REGNO) REFERENCES STUDENT(REGNO) ON DELETE CASCADE ON UPDATE CASCADE, FOREIGN KEY(COURSE_NO) REFERENCES COURSE(COURSE_NO) ON DELETE CASCADE ON UPDATE CASCADE); CREATE TABLE TEXTBOOK(ISBN INT, TITLE VARCHAR(30), PUBLISHER VARCHAR(30), AUTHOR VARCHAR(30), PRIMARY KEY(ISBN));

CREATE TABLE ADOPTION(COURSE_NO INT, SEM INT, ISBN INT, FOREIGN KEY(COURSE_NO)

```
REFERENCES COURSE(COURSE_NO) ON DELETE CASCADE ON UPDATE CASCADE, FOREIGN KEY(ISBN)
REFERENCES TEXTBOOK(ISBN) ON DELETE CASCADE ON UPDATE CASCADE);
INSERT INTO STUDENT VALUES("CS01", "RAM", "DS", "1986-03-12"),
("ISO2", "SMITH", "USP", "1987-12-23"),
("EC03", "AHMED", "SNS", "1985-04-17"),
("CS03" ,"SNEHA" ,"DBMS" ,"1987-01-01"),
("TC05", "AKHILA", "EC", "1986-10-06");
INSERT INTO COURSE VALUES(11 ,"DS" ,"CS"),
(22 ,"USP" ,"IS"),
(33 ,"SNS" ,"EC"),
(44 ,"DBMS" ,"CS"),
(55 ,"EC" ,"TC");
INSERT INTO ENROLL VALUES("CS01" ,11 ,4 ,85),
("IS02",22, 6, 80),
("EC03", 33, 2, 80),
("CS03", 44, 6, 75),
("TC05", 55, 2, 8);
INSERT INTO TEXTBOOK VALUES(1, "DS and C", "Princeton", "Padma Reddy"),
(2 ,"Fundamentals of DS" ,"Princeton", "Godse"),
(3 , "Fundamentals of DBMS" , "Princeton" , "Navathe"),
(4 ,"SQL" ,"Princeton" ,"Foley"),
(5 ,"Electronic circuits" ,"TMH" ,"Elmasri"),
(6 ,"Adv unix prog" ,"TMH" ,"Stevens");
INSERT INTO ADOPTION VALUES(11 ,4 ,1),
(11, 4, 2),
(44,6,3),
(44, 6, 4),
(55, 2, 55),
(22, 6, 6);
#Demonstrate how you add a new text book to the database and make this book be
adopted by some department.
INSERT INTO TEXTBOOK VALUES(7, "Operating System Concepts", "Wiley", "Silberschatz-
Galvin-Gagne");
INSERT INTO ADOPTION VALUES(55, 2, 7);
SELECT * FROM TEXTBOOK;
/*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_NO ,T.ISBN,T.TITLE FROM COURSE C, TEXTBOOK T, ADOPTION A WHERE
C.DEPT = "CS" AND C.COURSE_NO = A.COURSE_NO AND A.ISBN = T.ISBN;
/*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, TEXTBOOK T, ADOPTION A

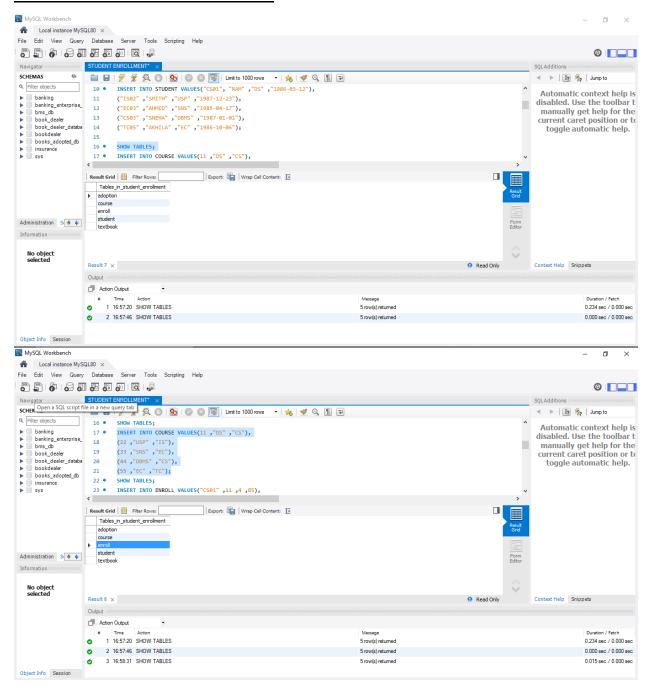
WHERE T.PUBLISHER = "PRINCETON" AND C.COURSE_NO = A.COURSE_NO AND A.ISBN = T.ISBN)

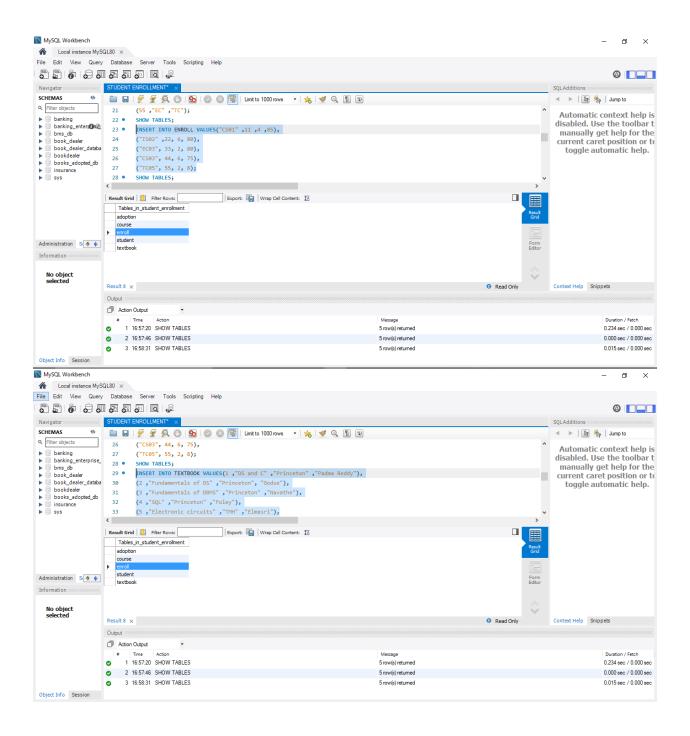
AND C.DEPT NOT IN (SELECT C.DEPT FROM COURSE C, TEXTBOOK T, ADOPTION A

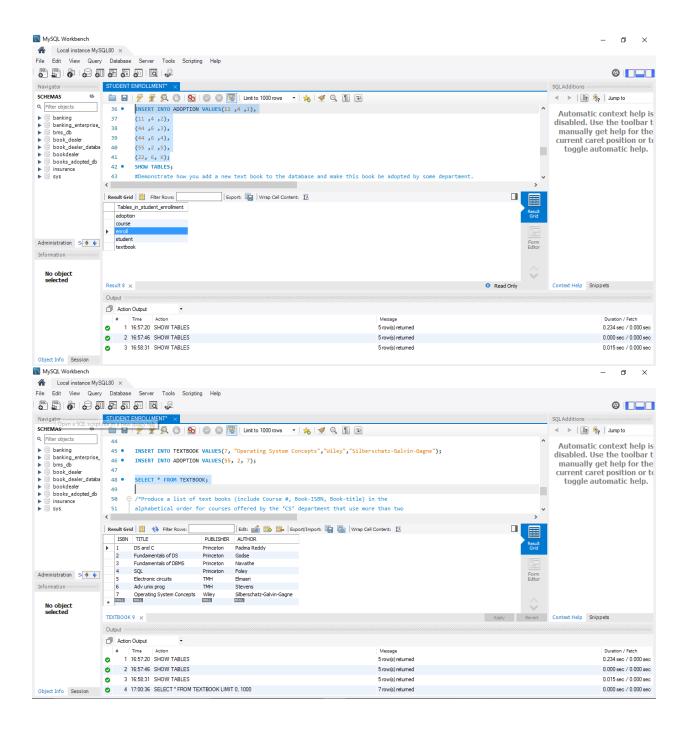
WHERE T.PUBLISHER != "PRINCETON" AND C.COURSE_NO = A.COURSE_NO AND A.ISBN =

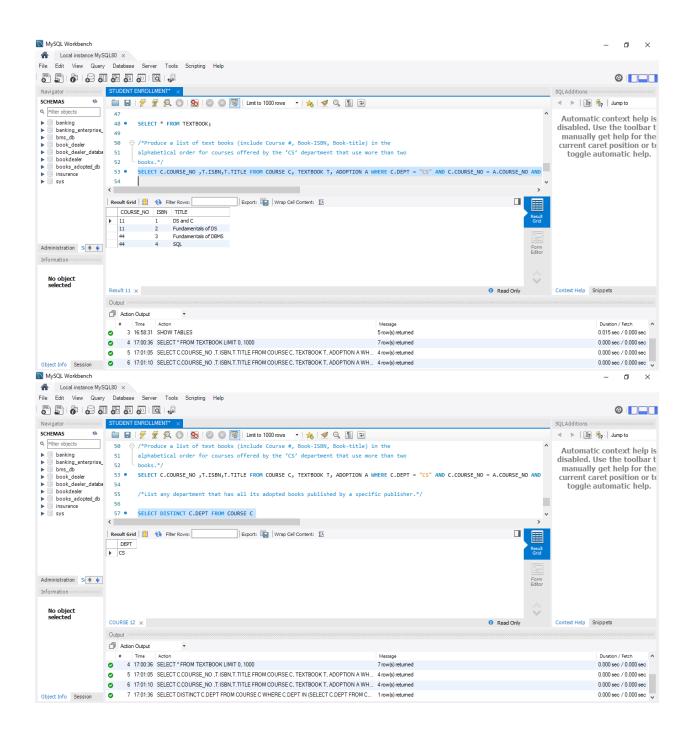
T.ISBN);

SCREENSHOTS OF PROGRAM OUTPUT:









** END OF WEEK5 PROGRAM **