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**1BM20CS402**

**CSE-4A**

**Program 7 : Book Database**

BOOK (Book\_id, Title, Publisher\_Name, Pub\_Year) BOOK\_AUTHORS (Book\_id, Author\_Name) PUBLISHER (Name, Address, Phone) BOOK\_COPIES (Book\_id, Branch\_id, No-of\_Copies)

BOOK\_LENDING (Book\_id, Branch\_id, Card\_No, Date\_Out, Due\_Date)

LIBRARY\_BRANCH (Branch\_id, Branch\_Name, Address)

# Write SQL queries to

1. Retrieve details of all books in the library – id, title, name of publisher, authors, number of copies in each branch, etc.
2. Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun 2017
3. Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.
4. Partition the BOOK table based on year of publication. Demonstrate its working with a simple query.
5. Create a view of all books and its number of copies that are currently available in the Library.

create database bookdb; use bookdb;

create table publisher( name varchar(30) not null, address varchar(20) , phone varchar(10), primary key(name)

);

create table book( book\_id int not null, title varchar(20),

publisher\_name varchar(20), pub\_year varchar(20), primary key(book\_id),

foreign key(publisher\_name) references publisher(name)

);

create table book\_authors( book\_id int not null,

author\_name varchar(30) not null, primary key(book\_id,author\_name),

foreign key(book\_id) references book(book\_id)

);

create table library\_branch( branch\_id int not null, address varchar(20), branch\_name varchar(20), primary key(branch\_id)

);

create table book\_copies( book\_id int not null, branch\_id int not null, no\_of\_copies int,

primary key(book\_id,branch\_id),

foreign key(book\_id) references book(book\_id), foreign key(branch\_id) references library\_branch(branch\_id)

);

create table Card( card\_no int(10) not null, primary key(card\_no)

);

create table book\_lending

( date\_out date,

due\_date date, book\_id int not null, branch\_id int not null, card\_no int not null,

primary key(book\_id,branch\_id,card\_no), foreign key(book\_id) references book(book\_id), foreign key(branch\_id) references library\_branch(branch\_id),

foreign key(card\_no) references Card(card\_no)

);

insert into publisher

values('MCGRAW-HILL','BANGALORE',9989076587), ('PEARSON', 'NEWDELHI', 9889076565),

('RANDOM HOUSE', 'HYDRABAD', 7455679345), ('HACHETTE LIVRE', 'CHENAI', 8970862340), ('GRUPO PLANETA', 'BANGALORE', 7756120238);

insert into book

values(1,'DBMS', 'MCGRAW-HILL','JAN-2017'),

(2,'ADBMS', 'MCGRAW-HILL','JUN-2016'),

(3,'CN', 'PEARSON','SEP-2016'),

(4,'CG', 'GRUPO PLANETA','SEP-2015'),

(5,'OS', 'PEARSON','MAY-2016');

insert into book\_authors values(1,'NAVATHE'), (2,'NAVATHE'),

(3,'TANENBAUM'),

(4,'EDWARD ANGEL'),

(5,'GALVIN');

insert into library\_branch values(10,'RR NAGAR','BANGALORE'),

(11,'RNSIT','BANGALORE'), (12,'RAJAJI NAGAR', 'BANGALORE'), (13,'NITTE','MANGALORE'),

(14,'MANIPAL','UDUPI');

insert into book\_copies values( 1, 10,10),

( 1, 11,5),

( 2, 12,2),

( 2, 13,5),

( 3, 14,7),

( 5, 10,1),

( 4, 11,3);

insert into Card values(100), (101),

(102),

(103),

(104);

insert into book\_lending

values('2017-01-01','2017-06-01', 1, 10, 101),

('2017-01-01','2017-03-11', 3, 14, 101),

('2017-02-21','2017-04-21', 2, 13, 101),

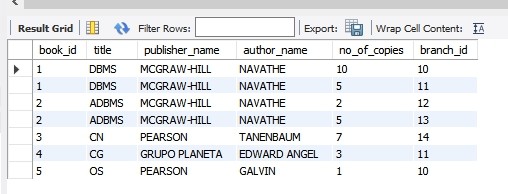
('2017-03-15','2017-07-15', 4, 11, 101),

('2017-04-12','2017-05-12', 1, 11, 104);

-------Retrieve details of all books in the library – id, title, name of publisher, authors, number of copies in each branch, etc.

select b.book\_id,b.title,b.publisher\_name,a.author\_name,c.no\_of\_copies,l.branc h\_id

from book b,book\_authors a,book\_copies c,library\_branch l where b.book\_id=a.book\_id and b.book\_id=c.book\_id and l.branch\_id=c.branch\_id;

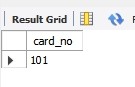


------Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun 2017

select card\_no from book\_lending

where date\_out between '2017-01-01' and '2017-07-01' group by card\_no

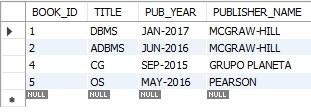
having count(\*)>3;



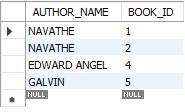
------Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.

DELETE FROM BOOK WHERE BOOK\_ID=3;

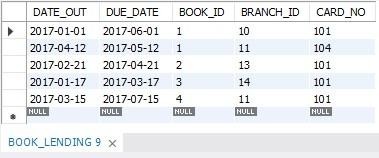
select \* from book;



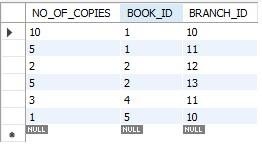
select \* from book\_authors;



select \* from book\_lending;



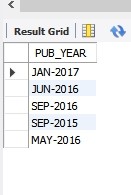
select \* from book\_copies;



-------Partition the BOOK table based on year of publication. Demonstrate its working with a simple query.

CREATE VIEW YEAR\_OF\_PUBLICATION AS SELECT PUB\_YEAR FROM BOOK;

SELECT \* FROM YEAR\_OF\_PUBLICATION;



-------Create a view of all books and its number of copies that are currently available in the Library.

CREATE VIEW BOOKS\_AVAILABLE\_IN\_LIBRARY

AS SELECT B.BOOK\_ID, B.TITLE, C.NO\_OF\_COPIES FROM BOOK B, BOOK\_COPIES C, LIBRARY\_BRANCH L

WHERE B.BOOK\_ID=C.BOOK\_ID AND C.BRANCH\_ID=L.BRANCH\_ID;

SELECT \* FROM BOOKS\_AVAILABLE\_IN\_LIBRARY;

