create table publisher

(name varchar(20),

phone integer,

address varchar(20),

constraint pkp primary key(name));

create table book

(book\_id varchar(8),

title varchar(20),

pub\_year integer,

publisher\_name varchar(20),

constraint pkb primary key(book\_id),

constraint fkb foreign key(publisher\_name) references publisher(name));

create table book\_authors

(book\_id varchar(8),

author\_name varchar(20),

constraint pkba primary key(book\_id,author\_name),

constraint fkba foreign key(book\_id) references book(book\_id) on delete cascade);

create table library\_branch

(branch\_id varchar(8),

address varchar(20),

branch\_name varchar(20),

constraint pklb primary key(branch\_id));

create table book\_copies

(book\_id varchar(8),

branch\_id varchar(8),

no\_of\_copies integer,

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

constraint fkbc foreign key(book\_id) references book(book\_id) on delete cascade,

constraint fkbb foreign key(branch\_id) references library\_branch(branch\_id));

create table book\_lending

(book\_id varchar(8),

branch\_id varchar(8),

card\_no integer,

date\_out date,

due\_date date,

constraint pkbl primary key(book\_id,branch\_id,card\_no),

constraint fkbl foreign key(book\_id) references book(book\_id) on delete cascade);

**queries**

1. 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.branch\_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;

2. 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 '01-jan-2017' and '01-jun-2017'

group by card\_no

having count(\*)>3;

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

select \* from book;

select \* from book\_copies;

delete from book

where book\_id='03';

select \* from book;

select \* from book\_copies;

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

create table bookpart

(partition by range (pub\_year)

partition p1 values less than(2018),

partition p2 values less than (maxvalue)

as select \* from book);

select table\_name,partition\_name from user\_tab\_partitions;

select \* from bookpart partition (p1);

select \* from bookpart partition (p2);

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

create view bc as select b.book\_id,c.title,b.branch\_id,

(b.no\_of\_copies-(select count(\*) from book\_lending where b.book\_id=book\_id and b.branch\_id=branch\_id)) as no\_copy

from book\_copies b,book c

where b.book\_id=c.book\_id;