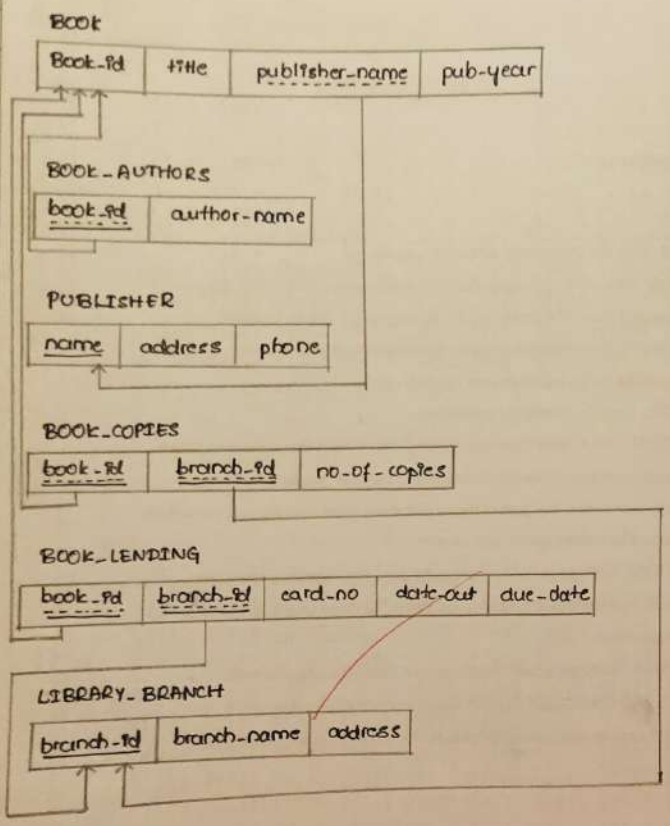
Schema Diagram



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LAB PROGRAM - 01

Consider the following schema for a library 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 Queries to:

1] Retrieve details of all the books in library-id, title, name of publisher, authors, no of copies in each branch etc.,

2] Get the particulars of borrowers who 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 operations.

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 no of copies that are currently available in the library.

Teacher's Signature :

Table created

Table created

Table created

Table created

Date

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Table Creation:

1. create table publisher(
   name varchar(20) primary key,
   address varchar(20),
   phone int);

2. create table library-branch(
   branch_id int primary key,
   branch_name varchar(30),
   address varchar(20));

3. create table book(
   book_id int primary key,
   title varchar(20),
   publisher_name varchar(20),
   pub_year int,
   foreign key(publisher_name) references publisher(name) on delete cascade);

4. create table book_authors(
   book_id int primary key,
   author_name varchar(20),
   foreign key(book_id) references book(book_id) on delete cascade);

Table created

Table created

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5. Create table book_copies(
book_id int,
branch_id int,
no-of-copies int,
primary key(book_id, branch_id),
foreign key(book_id) references book(book_id) on delete cascade,
foreign key(branch_id) references library-branch(branch_id) on delete cascade);

6. Create table book-lending(
book_id int,
branch_id int,
card_no int,
date_out date,
due_date date,
primary key(book_id, branch_id),
foreign key(book_id) references book(book_id) on delete cascade,
foreign key(branch_id) references library-branch(branch_id) on delete cascade);

Value Insertion:

1. Insert into publisher values
('cgraw', 'banglore', '9813567180');
Insert into publisher values
('pearson', 'Mysore', '9845152881');
Insert into publisher values
('random', 'Manglore', '9876543210');

Teacher's Signature :

select * from publishers;

NAME	ADDRESS	PHONE
cgraw	Banglore	9844016163
pearson	Mysore	9845152281
random	Manglore	9876543210
tata	Chikmagkur	9123456780
planeta	Raichur	9123456870

select * from books;

book_id	title	publisher_name	pub_year
1	dbms	cgraw	2017
2	oldbms	cgraw	2016
3	CN	pearson	2016
4	CG	planeta	2015
5	OS	pearson	2016

select * from book_author;

book_id	Author_name
1	navathe
2	navathe
3	tanenbaum
4	edwardange
5	galvin

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insert into publisher values
('tata', 'chikmaglur', '9123456780');
insert into publisher values
('planeta', 'Raichur', '9214365870');

2. insert into book values
('1', 'dbms', 'cgraw', '2017');
insert into book values
('2', 'adbms', 'cgraw', '2016');
insert into book values
('3', 'cn', 'pearson', '2016');
insert into book values
('4', 'GG', 'planeta', '2015');
insert into book values
('5', 'os', 'pearson', '2016');

3. insert into book_author values;
('1', 'navathe');
insert into book_author values;
('2', 'navathe');
insert into book_author values;
('3', 'tanenbaum');
insert into book_author values
('4', 'edwardauge');
insert into book_author values
('5', 'galvin');

Teacher's Signature :

select * from library_branch;

branch_id	branch_name	address
10	RRnagar	Banglore
11	NehruNagar	Mysore
12	TippuNagar	Bijapur
13	KrishnaNagar	chikmaglur
14	GandhiNagar	Hassan

select * from book_copies;

book_id	branch_id	no_of_copies
1	10	10
1	11	5
2	12	2
2	13	5
3	14	7
5	10	1
4	11	3

Date .....

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4. insert into library_branch values
('10', 'RRnagar', 'bangalore');
insert into library_branch values
('11', 'NehruNagar', 'Mysore');
insert into library_branch values
('12', 'TippuNagar', 'Bijapur');
insert into library_branch values
('13', 'KrishnaNagar', 'chikmagalur');
insert into library_branch values
('14', 'GandhiNagar', 'Hassan');

5. insert into book_copies values
('1', '10', '10');
insert into book_copies values
('1', '11', '5');
insert into book_copies values
('2', '12', '2');
insert into book_copies values
('2', '13', '5');
insert into book_copies values
('3', '14', '7');
insert into book_copies values
('5', '10', '1');
insert into book_copies values
('4', '11', '3');

select * from book_lending;

book_id	branch_id	card_no	date_out	due_date
1	10	101	01-Jan-17	01-Jun-17
3	14	101	11-Jan-17	11-Mar-17
2	13	101	21-feb-17	21-apr-17
4	11	101	15-mar-17	15-Jun-17
1	11	104	21-apr-17	12-May-17

Output:

BOOK_ID	TITLE	PUBLISHER_NAME	AUTHOR_NAME	NO_OF_COPIES	BRANCH_ID
1	dbms	cgraw	navathe	10	10
1	dbms	cgraw	navathe	5	11
2	adbms	cgraw	navathe	2	12
2	adbms	cgraw	navathe	5	13
3	cn	pearson	tanenbaum	7	14
5	os	pearson	galvin	1	10
4	cg	planeta	edwordange	3	11

Date .....

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6. Insert into book_lending values
('1', '10', '101', '01-Jan-17', '01-Jun-17');
Insert into book_lending values
('3', '14', '101', '11-Jan-17', '11-mar-17');
Insert into book_lending values
('2', '13', '101', '21-Feb-17', '21-Apr-17');
Insert into book_lending values
('4', '11', '101', '15-mar-17', '15-Jun-17');
Insert into book_lending values
('1', '11', '104', '21-apr-17', '12-may-17');

Queries:

1. Retrieve details of all the books in the library-id, title, name of publisher, authors, no-of-copies in each branch, etc.

select b.book_id, b.title, b.publisher_name, ba.author_name,
bc.no-of-copies, lb.branch_id
from book b, publisher p, book_authors ba, book_copies bc,
library_branch lb
Where ba.book_id = b.book_id and b.publisher_name = p.name and
bc.book = b.book_id and lb.branch_id = bc.branch_id;

2. Get the particulars of borrowers who are borrowed more than three books, but

2. CARD_NO

101

3. 1 row deleted select * from book;

BOOK_ID	TITLE	PURCHASE_NAME	PUB_YEAR
1	dbms	cgraw	2017
2	adbms	cgraw	2016
4	cg	planeta	2015
5	os	pearson	2016

4. view created select * from view_pubyear;

PUB_YEAR
2015
2016
2016
2016
2017

5. view created select * from view_books;

BOOK_ID	TITLE	NO_OF_COPIES
1	dbms	10
1	dbms	5
2	adbms	2
2	adbms	5
5	os	1
4	cg	3
3	cn	7

Date .....

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```
select card_no
from book_lending
where date_out between '01-JAN-17' and '30-JUN-17'
group by card_no
having count(*)>3;
```

3. Delete a book in book table, update the contents of other tables to reflect this data manipulated operations

```
delete from book
where book_id='3';
```

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

```
create view view_pubyear as
select pub_year
from book
order by pub_year;
```

5. Create a view of all books and its no of copies that are currently available in the library

```
create view view_books as
select b.book_id, b.title, bc.no_of_copies
from book b, book_copies bc
where b.book_id = bc.book_id;
```

Teacher's Signature : _____