**TRISHUL M**

**1BM19CS173**

**D1**

# **BOOK**

```
create database bookdb;

use bookdb;


create table publisher (

        name varchar (20) primary key,

        phone integer,

        address varchar (20)

);

desc publisher;


create table book (

        book_id integer primary key,

        title varchar (20),

        pub_year varchar (20),

        publisher_name varchar (20),

        foreign key (publisher_name) references publisher (name) on delete cascade

);

desc book;


create table book_authors (

        author_name varchar (20),

        book_id integer,

        foreign key (book_id) references book (book_id) on delete cascade,

        primary key (book_id, author_name)

);
```

```sql
desc book_authors;


create table library_branch (
        branch_id integer primary key,
        branch_name varchar (50),
        address varchar (50)
);
desc library_branch;


create table book_copies (
        no_of_copies integer,
        book_id integer,
        branch_id integer,
        foreign key (book_id) references book (book_id) on delete cascade,
        foreign key (branch_id) references library_branch (branch_id) on delete cascade,
        primary key (book_id, branch_id)
);
desc book_copies;


create table card (
        card_no integer primary key
);
desc card;
create table book_lending (
        date_out date,
        due_date date,
    book_id integer,
        branch_id integer,
    card_no integer,
        foreign key (book_id) references book (book_id) on delete cascade,
        foreign key (branch_id) references library_branch (branch_id) on delete cascade,
```

foreign key (card_no) references card (card_no) on delete cascade,

primary key (book_id, branch_id, card_no)

);

desc book_lending;


insert into publisher values ('mcgraw-hill', 99890, 'bangalore');

insert into publisher values ('pearson', 98890, 'newdelhi');

insert into publisher values ('random house', 74556, 'hydrabad');

insert into publisher values ('hachette livre', 897086, 'chenai');

insert into publisher values ('grupo planeta', 77561, 'bangalore');


select * from publisher;

| name | phone | address |
|------|-------|---------|
| grupo planeta | 77561 | bangalore |
| hachette livre | 897086 | chenai |
| mcgraw-hill | 99890 | bangalore |
| pearson | 98890 | newdelhi |
| random house | 74556 | hydrabad |
| NULL | NULL | NULL |


insert into book values (1,'dbms','01-2017', 'mcgraw-hill');

insert into book values (2,'adbms','06-2016', 'mcgraw-hill');

insert into book values (3,'cn','09-2016', 'pearson');

insert into book values (4,'cg','09-2015', 'grupo planeta');

insert into book values (5,'os','05-2016', 'pearson');

select * from book;

| book_id | title | pub_year | publisher_name |
|---------|-------|----------|----------------|
| 1 | dbms | 01-2017 | mcgraw-hill |
| 2 | adbms | 06-2016 | mcgraw-hill |
| 4 | cg | 09-2015 | grupo planeta |
| 5 | os | 05-2016 | pearson |
| NULL | NULL | NULL | NULL |

insert into book_authors values ('navathe', 1);

insert into book_authors values ('navathe', 2);

insert into book_authors values ('tanenbaum', 3);

insert into book_authors values ('edward angel', 4);

insert into book_authors values ('galvin', 5);

select * from book_authors;

| author_name | book_id |
|---|---|
| navathe | 1 |
| navathe | 2 |
| edward angel | 4 |
| galvin | 5 |
| NULL | NULL |

insert into library_branch values (10,'rr nagar','bangalore');

insert into library_branch values (11,'rnsit','bangalore');

insert into library_branch values (12,'rajaji nagar', 'bangalore');

insert into library_branch values (13,'nitte','mangalore');

insert into library_branch values (14,'manipal','udupi');

select * from library_branch;

| branch_id | branch_name | address |
|---|---|---|
| 10 | rr nagar | bangalore |
| 11 | rnsit | bangalore |
| 12 | rajaji nagar | bangalore |
| 13 | nitte | mangalore |
| 14 | manipal | udupi |
| NULL | NULL | NULL |

insert into book_copies values (10, 1, 10);

insert into book_copies values (5, 1, 11);

insert into book_copies values (2, 2, 12);

insert into book_copies values (5, 2, 13);

insert into book_copies values (7, 3, 14);

insert into book_copies values (1, 5, 10);

insert into book_copies values (3, 4, 11);

select * from book_copies;

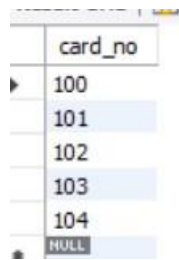| no_of_copies | book_id | branch_id |
|---|---|---|
| 10 | 1 | 10 |
| 5 | 1 | 11 |
| 2 | 2 | 12 |
| 5 | 2 | 13 |
| 3 | 4 | 11 |
| 1 | 5 | 10 |

insert into card values (100);

insert into card values (101);

insert into card values (102);

insert into card values (103);

insert into card values (104);

select * from card;

| card_no |
| --- |
| 100 |
| 101 |
| 102 |
| 103 |
| 104 |
| NULL |

insert into book_lending values ('01-01-17','01-06-17', 1, 10, 101);
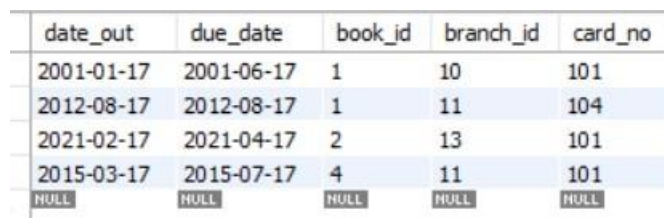
insert into book_lending values ('11-01-17','11-03-17', 3, 14, 101);

insert into book_lending values ('21-02-17','21-04-17', 2, 13, 101);

insert into book_lending values ('15-03-17','15-07-17', 4, 11, 101);

insert into book_lending values ('12-08-17','12-08-17', 1, 11, 104);

select * from book_lending;

| date_out | due_date | book_id | branch_id | card_no |
| --- | --- | --- | --- | --- |
| 2001-01-17 | 2001-06-17 | 1 | 10 | 101 |
| 2012-08-17 | 2012-08-17 | 1 | 11 | 104 |
| 2021-02-17 | 2021-04-17 | 2 | 13 | 101 |
| 2015-03-17 | 2015-07-17 | 4 | 11 | 101 |
| NULL | NULL | NULL | NULL | NULL |

-- Query 1

select b.book_id, b.title, b.pub_year, b.publisher_name, bc.no_of_copies, ba.author_name, lb.branch_name from book b, book_authors ba,

library_branch lb, book_copies bc where b.book_id = ba.book_id and b.book_id = bc.book_id and lb.branch_id = bc.branch_id;

| book_id | title | pub_year | publisher_name | no_of_copies | author_name | branch_name |
|---|---|---|---|---|---|---|
| 5 | os | 05-2016 | pearson | 1 | galvin | rr nagar |
| 1 | dbms | 01-2017 | mcgraw-hill | 10 | navathe | rr nagar |
| 4 | cg | 09-2015 | grupo planeta | 3 | edward angel | rnsit |
| 1 | dbms | 01-2017 | mcgraw-hill | 5 | navathe | rnsit |
| 2 | adbms | 06-2016 | mcgraw-hill | 2 | navathe | rajaji nagar |
| 2 | adbms | 06-2016 | mcgraw-hill | 5 | navathe | nitte |

-- Query 2

select card_no from book_lending where year(date_out) >17 and month(date_out)<7 group by card_no having count(card_no) >2 ;

| card_no |
|---|
| 101 |

-- Query 3

delete from book where book_id = 3;

select * from book;

| book_id | title | pub_year | publisher_name |
|---|---|---|---|
| 1 | dbms | 01-2017 | mcgraw-hill |
| 2 | adbms | 06-2016 | mcgraw-hill |
| 4 | cg | 09-2015 | grupo planeta |
| 5 | os | 05-2016 | pearson |
| NULL | NULL | NULL | NULL |

select * from book_authors;

| | author_name | book_id |
|---|---|---|
| ▶ | navathe | 1 |
| | navathe | 2 |
| | edward angel | 4 |
| | galvin | 5 |
| | NULL | NULL |

select * from book_copies;

| no_of_copies | book_id | branch_id |
|---|---|---|
| 10 | 1 | 10 |
| 5 | 1 | 11 |
| 2 | 2 | 12 |
| 5 | 2 | 13 |
| 3 | 4 | 11 |
| 1 | 5 | 10 |
| NULL | NULL | NULL |

select * from book_lending;

| date_out | due_date | book_id | branch_id | card_no |
|----------|----------|---------|-----------|---------|
| 2001-01-17 | 2001-06-17 | 1 | 10 | 101 |
| 2012-08-17 | 2012-08-17 | 1 | 11 | 104 |
| 2021-02-17 | 2021-04-17 | 2 | 13 | 101 |
| 2015-03-17 | 2015-07-17 | 4 | 11 | 101 |
| NULL | NULL | NULL | NULL | NULL |

-- Query 4

select * from book order by substring(pub_year, 4, 4);

-- select b1.book_id, b1.title, b1.pub_year

-- from book b1

-- inner join book b2 on substring(b1.pub_year, 4, 4) = substring(b2.pub_year, 4, 4) and b1.book_id <> b2.book_id;

| book_id | title | pub_year | publisher_name |
|---------|-------|----------|----------------|
| 4 | cg | 09-2015 | grupo planeta |
| 2 | adbms | 06-2016 | mcgraw-hill |
| 5 | os | 05-2016 | pearson |
| 1 | dbms | 01-2017 | mcgraw-hill |
| NULL | NULL | NULL | NULL |

create view q4_view as select pub_year from book;

select * from q4_view;

| pub_year |
|----------|
| 01-2017 |
| 06-2016 |
| 09-2015 |
| 05-2016 |

-- Query 5

create view q5_view as select b.book_id, b.title, bc.no_of_copies from book b,

book_copies bc where b.book_id = bc.book_id;

select * from q5_view;