

CASE STUDY

AIM: Building Data Base Systems for following Case Study: Online Library Information System .

DESCRIPTION:

- Building a data base requires a Data Management System like SQL server, MySQL, Oracle DB, MS SQL server etc.
- DBMS stores data in the form of tables.
- Tables are collection of rows and columns that contain the data.
- Tuples are Uniquely identified by the Primary keys.
- Multiples Tables are related to each by adding foreign keys.
- Various commands like select, insert operators like and, or, >, <,>=, <=, =, clauses like where, group by, order by, exists, not exists, in, not in, and aggregate, numeric, string, group functions are used to execute various commands over the creating tables in the data base.

ENTITIES:

1. LIBRARY
2. BOOK ISSUE
3. MEMBERS
4. BOOK DETAILS
5. FINE
6. SUPPLIER

ATTRIBUTES:

I. LIBRARY:

1. books
2. staff

II. BOOK ISSUE:

1. mid
2. bcode
3. dissue
4. dreturn
5. bistatus
6. frange

III. MEMBERS:

1. mid
2. mname
3. city
4. dreister
5. dexpire
6. mstatus

IV. BOOK DETAILS:

1. bcode
2. btitle
3. category
4. author
5. publication
6. pdate
7. bedition
8. price
9. rno
10. darrival
11. sid

V. FINE DETAILS:

1. frange
2. famount

VI. SUPPLY

1. sid
2. sname
3. address
4. contact
5. email

SCHEMAS:

MEMBERS SCHEMA:

Create table MEMBERS

(

MID Varchar(10),

MNAME Varchar(30) NOT NULL,

*CITY Varchar(20),
rdate Date NOT NULL,
DEXPIRE Date ,
MSTATUS Varchar(15)NOT NULL,
PRIMARY KEY(MID)
);*

SUPPLY SCHEMA:

*Create table SUPPLY_DETAILS
(
SID Varchar(3),
SNAME Varchar(30) NOT NULL,
ADDRESS Varchar(50),
CONTACT bigint(10) NOT NULL,
EMAIL Varchar(15) NOT NULL,
PRIMARY KEY(SID)
);*

FINE SCHEMA:

*Create table FDETAILS
(
FRANGE Varchar(3),
FAMOUNT decimal(10,2) NOT NULL,
PRIMARY KEY(FRANGE)
);*

BOOK DETAILS SCHEMA:

Create table BDETAILS

```
(  
BCODE Varchar(10),  
BTITLE Varchar(50) NOT NULL,  
CATEGORY Varchar(15) NOT NULL,  
AUTHOR Varchar(30) NOT NULL,  
PUBLICATION Varchar(30),  
PDATE Date,  
BEDITION int(2),  
PRICE decimal(8,2) NOT NULL,  
RNUM Varchar(3),  
DARRIVAL Date NOT NULL,  
SID Varchar(3) NOT NULL,  
PRIMARY KEY(BCODE),  
FOREIGN KEY(SID) References SUPPLY_DETAILS(sID)  
);
```

BOOK ISSUE SCHEMA:

Create table BISSUE

```
(  
BISSUE_NO int,  
mID Varchar(10) NOT NULL,  
BCODE Varchar(10) NOT NULL,
```

DISSUE Date NOT NULL,
DRETURN Date NOT NULL,
DRETURNED Date NULL,
FRANGE Varchar(3),
PRIMARY KEY(BISSUENO),
FOREIGN KEY(MID) MEMBERS(MID),
FOREIGN KEY(BCODE) BDETAILS(BCODE),
FOREIGN KEY(FRANGE) FDETAILS(FIRANGE)
);

QUERIES:

QUERIES FOR INSERTING VALUES:

Insert into MEMBERS

Values(' 001', 'AMIT', 'CHENNAI', '2012-02-12', '2013-02-11','Temporary');

Insert into MEMBERS

Values(' 002', 'ABDHUL', 'DELHI', '2012-04-10', '2013-04-09','Temporary');

Insert into MEMBERS

Values(' 003', 'GAYAN', 'CHENNAI', '2012-05-13','2013-05-12', 'Permanent');

Insert into MEMBERS

Values(' 004', 'RADHA', 'CHENNAI', '2012-04-22', '2013-04-21', 'Temporary');

Insert into MEMBERS

Values(' 005', 'GURU', 'BANGALORE', '2012-03-30', '2013-05-16','Temporary');

Insert into MEMBERS

Values(' 006', 'MOHAN', 'CHENNAI', '2012-04-12', '2013-05-16','Temporary');

```
select * from members;
```

```
Insert into sDETAILS
```

```
Values ('S01','SINGAPORE SHOPPEE', 'CHENNAI', 9894123555,'sing@gmail.com');
```

```
Insert into sDETAILS
```

```
Values ('S02','JK Stores', 'MUMBAI', 9940123450 ,'jks@yahoo.com');
```

```
Insert into sDETAILS
```

```
Values ('S03','ROSE BOOK STORE', 'TRIVANDRUM', 9444411222,'rose@gmail.com');
```

```
Insert into sDETAILS
```

```
Values ('S04','KAVARI STORE', 'DELHI', 8630001452,'kavi@redif.com');
```

```
Insert into sDETAILS
```

```
Values ('S05','EINSTEIN BOOK GALLERY', 'US', 9542000001,'eingal@aol.com');
```

```
Insert into sDETAILS
```

```
Values ('S06','AKBAR STORE', 'MUMBAI',7855623100 ,'akbakst@aol.com');
```

```
select * from sDETAILS;
```

```
Insert into FDETAILS Values('R0', 0);
```

```
Insert into FDETAILS Values('R1', 20);
```

```
insert into FDETAILS Values('R2', 50);
```

```
Insert into FDETAILS Values('R3', 75);
```

```
Insert into FDETAILS Values('R4', 100);
```

```
Insert into FDETAILS Values('R5', 150);
```

```
Insert into FDETAILS Values('R6', 200);
```

```
select * from FDETAILS;
```

Insert into BDETAILS

Values('BL000010', 'Java ForvDummies', 'JAVA', 'Paul J. Deitel', 'Prentice Hall', '1999-12-10', 6, 575.00, 'A1', '2011-05-10', 'S01');

Insert into BDETAILS

Values('BL000002', 'Java: The Complete Reference ', 'JAVA', 'Herbert Schildt', 'Tata Mcgraw Hill ', '2011-10-10', 5, 750.00, 'A1', '2011-05-10', 'S03');

Insert into BDETAILS

Values('BL000003', 'Java How To Do Program', 'JAVA', 'Paul J. Deitel', 'Prentice Hall', '1999-05-10', 6, 600.00, 'A1', '2012-05-10', 'S01');

Insert into BDETAILS

Values('BL000004', 'Java: The Complete Reference ', 'JAVA', 'Herbert Schildt', 'Tata Mcgraw Hill ', '2011-10-10', 5, 750.00, 'A1', '2012-05-11', 'S01');

Insert into BDETAILS

Values('BL000005', 'Java How To Do Program', 'JAVA', 'Paul J. Deitel', 'Prentice Hall', '1999-12-10', 6, 600.00, 'A1', '2012-05-11', 'S01');

Insert into BDETAILS

Values('BL000006', 'Java: The Complete Reference ', 'JAVA', 'Herbert Schildt', 'Tata Mcgraw Hill ', '2011-10-10', 5, 750.00, 'A1', '2012-05-12', 'S03');

Insert into BDETAILS

Values('BL000007', 'Let Us C', 'C', 'Yashavant Kanetkar ', 'BPB Publications', '2010-12-11', 9, 500.00 , 'A3', '2010-11-03', 'S03');

Insert into BDETAILS

Values('BL000008', 'Let Us C', 'C', 'Yashavant Kanetkar ', 'BPB Publications', '2010-05-12', 9, 500.00 , 'A3', '2011-08-09', 'S04');

Insert into BDETAILS

Values('BL000009', 'Let Us C#', 'C', 'Yashavant Kanetkar ', 'BPB Publications', '2010-05-12', 9, 550.00 , 'A3', '2011-08-09', 'S04');

Insert into BDETAILS

Values('BL000011', 'Let Us C++', 'C', 'Yashavant Kanetkar ', 'BPB Publications', '2010-05-12', 9, 650.00 , 'A3', '2011-08-09', 'S04');

*select * from BDETAILS;*

Insert into BISSUE

Values (001, 'LM001', 'BL000010', '2012-05-01', '2012-05-16', '2012-05-16', 'R0');

Insert into BISSUE

Values (002, 'LM002', 'BL000002', '2012-05-01', '2012-05-06','2012-05-16', 'R2');

Insert into BISSUE

Values (003, 'LM003', 'BL000007', '2012-04-01', '2012-04-16', '2012-04-20','R1');

Insert into BISSUE

Values (004, 'LM004', 'BL000005', '2012-04-01', '2012-04-16','2012-04-20', 'R1');

Insert into BISSUE

Values (005, 'LM005', 'BL000008', '2012-03-30', '2012-04-15','2012-04-20' , 'R1');

Insert into BISSUE

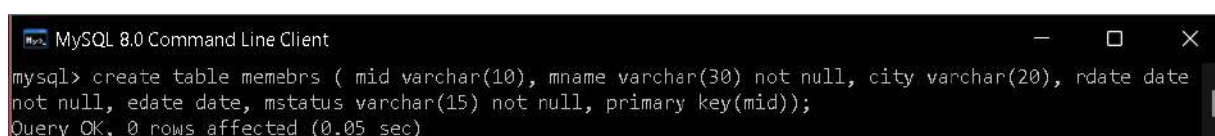
Values (006, 'LM005', 'BL000008', '2012-04-20', '2012-05-05','2012-05-05' , 'R0');

Insert into BISSUE

Values (007, 'LM003', 'BL000007', '2012-04-22', '2012-05-07','2012-05-25' , 'R4');

*select * from BISSUE ;*

OUTPUT:



```
MySQL 8.0 Command Line Client
mysql> create table memebns ( mid varchar(10), mname varchar(30) not null, city varchar(20), rdate date
not null, edate date, mstatus varchar(15) not null, primary key(mid));
Query OK, 0 rows affected (0.05 sec)
```



```
mysql> create table supply_details ( sid varchar(3), sname varchar(30) not null, addr varchar(50), contact bigint(10) not null, email varchar(15) not null, primary key(sid));
Query OK, 0 rows affected, 1 warning (0.05 sec)
```

```
mysql> create table fine ( frange varchar(3), famount decimal(10,2) not null, primary key(frange));
Query OK, 0 rows affected (0.08 sec)
```

```
mysql> create table bdetails ( bcode varchar(10), btitle varchar(50) not null, category varchar(15) not null, author varchar(30) not null, publication varchar(30), pdate date, bedition int(2), ice decimal(8,2) not null, rno varchar(3), darrival date not null, sid varchar(3) not null, primary key(bcode), foreign key (sid) references supply_details(sid));
Query OK, 0 rows affected, 1 warning (0.12 sec)
```

```
mysql> create table bissue( bisssueno integer, mid varchar(10) not null, bcode varchar(10) not null, disssue date not null, dreturn date not null, dreturned date not null, frange varchar(3), primary key (bisssueno), foreign key (mid) references members (mid), foreign key (bcode) references bdetails (bcode), foreign key(frange) references fine(frange));
Query OK, 0 rows affected (0.16 sec)
```

```
mysql> insert into members (mid,mname,city,dregister,dexpire,mstatus) values ('001','amit','chennai','2012-02-12','2013-02-11','temporary'),
-> ('002','abdul','delhi','2012-04-10','2013-04-09','temporary');
ERROR 1054 (42S22): Unknown column 'dregister' in 'field list'
mysql> insert into members (mid,mname,city,dregister,dexpire,mstatus) values ('001','amit','chennai','2012-02-12','2013-02-11','temporary'),
-> ('002','abdul','delhi','2012-04-10','2013-04-09','temporary');
ERROR 1054 (42S22): Unknown column 'dregister' in 'field list'
mysql> insert into members (mid,mname,city,rdate,edate,mstatus) values ('001','amit','chennai','2012-02-12','2013-02-11','temporary'),
-> ('002','abdul','delhi','2012-04-10','2013-04-09','temporary');
Query OK, 2 rows affected (0.02 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into members (mid,mname,city,rdate,edate,mstatus) values ('003','gayan','chennai','2012-05-13','2013-05-12','permanent'),
-> ('004','radha','chennai','2012-04-22','2013-04-21','temporary'),
-> ('005','mohan','chennai','2012-04-12','2013-05-16','temporary');
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from memebbers;
ERROR 1146 (42S02): Table 'dbms_project.memebbers' doesn't exist
mysql> select * from members;
+----+-----+-----+-----+-----+-----+
| mid | mname | city | rdate | edate | mstatus |
+----+-----+-----+-----+-----+-----+
| 001 | amit | chennai | 2012-02-12 | 2013-02-11 | temporary |
| 002 | abdul | delhi | 2012-04-10 | 2013-04-09 | temporary |
| 003 | gayan | chennai | 2012-05-13 | 2013-05-12 | permanent |
| 004 | radha | chennai | 2012-04-22 | 2013-04-21 | temporary |
| 005 | mohan | chennai | 2012-04-12 | 2013-05-16 | temporary |
+----+-----+-----+-----+-----+-----+
```

```
mysql> insert into supply_details values('s01','singapore shoppee','chennai',984123555,'sing@gmail.com'),('s02','jk stores','mumbai',9940123450,'jks@yahoo.com'),('s03','rose book store','delhi',8630001452,'kavi@redif.com'),
-> ('s05','einstein book gallery','us',95430000001,'eingal@aol.com'),
-> ('s06','akbar store','mumbai',7855633100,'akbakst@aol.com'),
-> ('s04','kavrai store','mumbai',8630001452,'kavi@redif.com');
Query OK, 6 rows affected (0.01 sec)
Records: 6 Duplicates: 0 Warnings: 0
```

```
mysql> select * from supply_details;
+----+-----+-----+-----+-----+
| sid | sname | addr | contact | email |
+----+-----+-----+-----+-----+
| s01 | singapore shoppee | chennai | 984123555 | sing@gmail.com |
| s02 | jk stores | mumbai | 9940123450 | jks@yahoo.com |
| s03 | rose book store | delhi | 8630001452 | kavi@redif.com |
| s04 | kavrai store | mumbai | 8630001452 | kavi@redif.com |
| s05 | einstein book gallery | us | 95430000001 | eingal@aol.com |
| s06 | akbar store | mumbai | 7855633100 | akbakst@aol.com |
+----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

```
mysql> insert into supply_details
-> values
-> ('S01','SINGAPORE SHOPPEE', 'CHENNAI', 9894123555,'sing@gmail.com'),
-> ('S02','JK Stores', 'MUMBAI', 9940123450 , 'jks@yahoo.com'),
-> ('S03','ROSE BOOK STORE', 'TRIVANDRUM', 9444411222,'rose@gmail.com'),
-> ('S04','KAVARI STORE', 'DELHI', 8630001452,'kavi@redif.com'),
-> ('S05','EINSTEIN BOOK GALLERY', 'US', 9542000001,'eingal@aol.com'),
-> ('S06','AKBAR STORE', 'MUMBAI',7855623100 , 'akbakst@aol.com');
ERROR 1062 (23000): Duplicate entry 'S01' for key 'supply_details.PRIMARY'
mysql> select * from sypply_details;
ERROR 1146 (42S02): Table 'dbms_project.sypply_details' doesn't exist
mysql> select * from supply_details;
+-----+-----+-----+-----+-----+
| sid | sname          | addr   | contact | email          |
+-----+-----+-----+-----+-----+
| s01 | singapore shoppee | chennai | 984123555 | sing@gmail.com |
| s02 | jk stores         | mumbai | 9940123450 | jks@yahoo.com  |
| s03 | rose book store   | delhi  | 8630001452 | kavi@redif.com |
| s04 | kavrai store      | mumbai | 8630001452 | kavi@redif.com |
| s05 | einstein book gallery | us    | 9543000001 | eingal@aol.com |
| s06 | akbar store       | mumbai | 7855633100 | akbakst@aol.com |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

```
MySQL 8.0 Command Line Client
mysql> insert into fine
-> values
-> ('r0',0),
-> ('r1',20),
-> ('r2',50),
-> ('r3',75),
->
-> ('r4',100),
-> ('r5',150),
-> ('r6',200);
Query OK, 7 rows affected (0.03 sec)
Records: 7 Duplicates: 0 Warnings: 0

mysql> select * from fine;
+-----+-----+
| frange | famount |
+-----+-----+
| r0     | 0.00    |
| r1     | 20.00   |
| r2     | 50.00   |
| r3     | 75.00   |
| r4     | 100.00  |
| r5     | 150.00  |
| r6     | 200.00  |
+-----+-----+
7 rows in set (0.00 sec)
```

```

MySQL 8.0 Command Line Client
mysql> insert into bdetails
-> values
-> ('BL000010', 'Java ForDummies', 'JAVA', 'Paul J. Deitel', 'Prentice Hall', '1999-12-10', 6, 575.00, 'A1', '2011-05-10', 'S01'),
-> ('BL000002', 'Java: The Complete Reference', 'JAVA', 'Herbert Schildt', 'Tata Mcgraw Hill', '2011-10-10', 5, 750.00, 'A1', '2011-05-10', 'S03'),
-> ('BL000003', 'Java: How To Do Program', 'JAVA', 'Paul J. Deitel', 'Prentice Hall', '1999-05-10', 6, 600.00, 'A1', '2012-05-10', 'S01'),
-> ('BL000004', 'Java: The Complete Reference', 'JAVA', 'Herbert Schildt', 'Tata Mcgraw Hill', '2011-10-10', 5, 750.00, 'A1', '2012-05-11', 'S01'),
-> ('BL000005', 'Java: How To Do Program', 'JAVA', 'Paul J. Deitel', 'Prentice Hall', '1999-12-10', 6, 600.00, 'A1', '2012-05-11', 'S01'),
-> ('BL000006', 'Java: The Complete Reference', 'JAVA', 'Herbert Schildt', 'Tata Mcgraw Hill', '2011-10-10', 5, 750.00, 'A1', '2012-05-12', 'S03'),
-> ('BL000007', 'Let Us C', 'C', 'Yashavant Kanetkar', 'BPB Publications', '2010-12-11', 9, 500.00, 'A3', '2010-11-03', 'S03'),
-> ('BL000008', 'Let Us C', 'C', 'Yashavant Kanetkar', 'BPB Publications', '2010-05-12', 9, 500.00, 'A3', '2011-08-09', 'S04'),
-> ('BL000009', 'Let Us C#', 'C', 'Yashavant Kanetkar', 'BPB Publications', '2010-05-12', 9, 550.00, 'A3', '2011-08-09', 'S04'),
-> ('BL000011', 'Let Us C++', 'C', 'Yashavant Kanetkar', 'BPB Publications', '2010-05-12', 9, 650.00, 'A3', '2011-08-09', 'S04');
Query OK, 10 rows affected (0.02 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> select * from bdetails;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| bcode | btitle | category | author | publication | pdate | bedition | ice | rno | darriual | sid |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| BL000002 | Java: The Complete Reference | JAVA | Herbert Schildt | Tata Mcgraw Hill | 2011-10-10 | 5 | 750.00 | A1 | 2011-05-10 | S03 |
| BL000003 | Java: How To Do Program | JAVA | Paul J. Deitel | Prentice Hall | 1999-05-10 | 6 | 600.00 | A1 | 2012-05-10 | S01 |
| BL000004 | Java: The Complete Reference | JAVA | Herbert Schildt | Tata Mcgraw Hill | 2011-10-10 | 5 | 750.00 | A1 | 2012-05-11 | S01 |
| BL000005 | Java: How To Do Program | JAVA | Paul J. Deitel | Prentice Hall | 1999-12-10 | 6 | 600.00 | A1 | 2012-05-11 | S01 |
| BL000006 | Java: The Complete Reference | JAVA | Herbert Schildt | Tata Mcgraw Hill | 2011-10-10 | 5 | 750.00 | A1 | 2012-05-12 | S03 |
| BL000007 | Let Us C | C | Yashavant Kanetkar | BPB Publications | 2010-12-11 | 9 | 500.00 | A3 | 2010-11-03 | S03 |
| BL000008 | Let Us C | C | Yashavant Kanetkar | BPB Publications | 2010-05-12 | 9 | 500.00 | A3 | 2011-08-09 | S04 |
| BL000009 | Let Us C# | C | Yashavant Kanetkar | BPB Publications | 2010-05-12 | 9 | 550.00 | A3 | 2011-08-09 | S04 |
| BL000010 | Java ForDummies | JAVA | Paul J. Deitel | Prentice Hall | 1999-12-10 | 6 | 575.00 | A1 | 2011-05-10 | S01 |
| BL000011 | Let Us C++ | C | Yashavant Kanetkar | BPB Publications | 2010-05-12 | 9 | 650.00 | A3 | 2011-08-09 | S04 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

```

```

mysql> insert into bissue values
-> (001, '001', 'BL000010', '2012-05-01', '2012-05-16', '2012-05-16', 'R0'),
-> (002, '002', 'BL000002', '2012-05-01', '2012-05-06', '2012-05-16', 'R2'),
-> (003, '003', 'BL000007', '2012-04-01', '2012-04-16', '2012-04-20', 'R1'),
-> (004, '004', 'BL000005', '2012-04-01', '2012-04-16', '2012-04-20', 'R1'),
-> (005, '005', 'BL000008', '2012-03-30', '2012-04-15', '2012-04-20', 'R1'),
-> (006, '005', 'BL000008', '2012-04-20', '2012-05-05', '2012-05-05', 'R0');
Query OK, 6 rows affected (0.02 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql> select * from bissue;
+-----+-----+-----+-----+-----+-----+-----+-----+
| bissueno | mid | bcode | dissee | dreturn | dreturned | frange |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 001 | BL000010 | 2012-05-01 | 2012-05-16 | 2012-05-16 | R0 |
| 2 | 002 | BL000002 | 2012-05-01 | 2012-05-06 | 2012-05-16 | R2 |
| 3 | 003 | BL000007 | 2012-04-01 | 2012-04-16 | 2012-04-20 | R1 |
| 4 | 004 | BL000005 | 2012-04-01 | 2012-04-16 | 2012-04-20 | R1 |
| 5 | 005 | BL000008 | 2012-03-30 | 2012-04-15 | 2012-04-20 | R1 |
| 6 | 005 | BL000008 | 2012-04-20 | 2012-05-05 | 2012-05-05 | R0 |
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

QUERIES FOR OPERATIONS ON THE DATA BASE:

1. *select mid,mname*

from members

where mid in

(select mid

from bissue

where bcode like '%02');

2. *select btitle,bcode*

from bdetails

where bcode in

(select bcode

from bissue

where dissue = '2012-04-01');

3. *select m.mid,m.mname,f.frange,sum(f.famount)*

from members m

join

fdetails f

join

bissue bi

on m.mid=bi.mid and

f.frange=bi.frange

group by m.mid

having sum(f.famount)>100;

4. select m.mid,m.mname,bi.dreturn,bi.dreturned

from members m

join

bissue bi

on m.mid=bi.mid

where dreturn != dreturned;

5. select mid,mname

from

members

where

mid not in(select bi.mid

from bissue bi

join fdetails f

on f.frange=bi.frange

where year(dreturned)=2012

group by bi.mid

having sum(f.famount)>0);

6. select count(Rnum)no_of_books,Rnum

from bdetails

group by Rnum

order by count(Rnum);

7. select bcode,btitle,bd.sid,max(price)

,sname

from bdetails bd

join sdetails sd

on sd.sid=bd.sid

group by sid;

8. select bcode,btitle,

publication,price,bedition,publish_date

from bdetails

order by bedition,publication,publish_date ;

9. select bcode,btitle,

publication,datediff(current_date,publish_date)no_of_days

from bdetails

order by datediff(current_date,publish_date) ;

10. select m.mid,mname,3-count(dissue)remaining

from members m

left join bissue bi

on m.mid=bi.mid

group by mid;

11. select sd.sid,sd.sname,count(Rnum)

from sdetails sd

join bdetails bd

on sd.sid=bd.sid

group by sd.sid

having count(Rnum)=(select count(Rnum)

from bdetails bd join sdetails sd

on sd.sid=bd.sid

group by sd.sid

order by count(Rnum)

limit 1);

12. select bcode, author, btitle

from bdetails

where author like 'p%';

13. select count(category) no_of_books

from bdetails

where category = 'java';

14. select category, count(category)

from bdetails

where category = 'java' or category = 'C'

group by category;

15. select mid, mname name, city

from members

where city = 'delhi' or city = 'chennai';

16. select concat(btitle, '_Is_Written_by_', author)

from bdetails;

17. select sid, sname, email

from sdetails

where email like '%gmail%';

18. select bcode, btitle, rno

from bdetails

where rno = 'A1'

ORDER BY Btitle;

19. select m.mid,m.mname,m.rdate

from members m

where mid not in(select mid from bissue);

20. select count(dissue) , dissue from bissue

group by bcode

having count(dissue) in

(select count(dissue)

from bissue

group by dissue

order by count(dissue) desc);

21. select btitle,sid

from bdetails

where author like 'h%'

and sid='S01'

and bedition=5;

22. select bcode,btitle,pdate

from bdetails

where month(pdate)=12;

23. select bcode,btitle,bd.sid,max(price)

,sname

from bdetails bd

join sdetails sd

on sd.sid=bd.sid

group by sid;

OUTPUT:

```
+-----+-----+-----+-----+
| bcode | publication | price | sname | count(bi.bcode) |
+-----+-----+-----+-----+
| BL000008 | BPB Publications | 500.00 | kavrai store | 2 |
+-----+-----+-----+-----+
1 row in set (0.01 sec)
```

```
mysql> select btitle, bcode from bdetails where bcode in (select bcode from bissue where disuse = '2012-04-01');
```

```
+-----+-----+
| btitle | bcode |
+-----+-----+
| Let Us C | BL000007 |
| Java How To Do Program | BL000005 |
+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> select m.mid, m.mname, m.city, m.mstatus, sum(famount) as fine from members m join bissue i on m.mid = i.mid join fine f on i.frange = i.frange group by m.mid, m.mname, m.city, m.mstatus;
```

```
+-----+-----+-----+-----+-----+
| mid | mname | city | mstatus | fine |
+-----+-----+-----+-----+-----+
| 005 | mohan | chennai | temporary | 1190.00 |
| 004 | radha | chennai | temporary | 595.00 |
| 003 | gayan | chennai | permanent | 595.00 |
| 002 | abdhul | delhi | temporary | 595.00 |
| 001 | amit | chennai | temporary | 595.00 |
+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)
```

```

mysql> select m.mid, m.mname, f.frange, sum(f.famount) from members m join fine f join bissue bi on m.mid = bi.frange group by m.mid having sum(f.famount) > 100;
Empty set (0.00 sec)

mysql> select bcode, btitle, publication, price, bedition, pdate from bdetails order by bedition, publication, pdate;
+-----+-----+-----+-----+-----+-----+
| bcode | btitle | publication | price | bedition | pdate |
+-----+-----+-----+-----+-----+-----+
| BL000002 | Java: The Complete Reference | Tata McGraw Hill | 750.00 | 5 | 2011-10-10 |
| BL000004 | Java: The Complete Reference | Tata McGraw Hill | 750.00 | 5 | 2011-10-10 |
| BL000006 | Java: The Complete Reference | Tata McGraw Hill | 750.00 | 5 | 2011-10-10 |
| BL000003 | Java How To Do Program | Prentice Hall | 600.00 | 6 | 1999-05-10 |
| BL000005 | Java How To Do Program | Prentice Hall | 600.00 | 6 | 1999-12-10 |
| BL000010 | Java ForvDummies | Prentice Hall | 575.00 | 6 | 1999-12-10 |
| BL000008 | Let Us C | BPB Publications | 500.00 | 9 | 2010-05-12 |
| BL000009 | Let Us C# | BPB Publications | 550.00 | 9 | 2010-05-12 |
| BL000011 | Let Us C++ | BPB Publications | 650.00 | 9 | 2010-05-12 |
| BL000007 | Let Us C | BPB Publications | 500.00 | 9 | 2010-12-11 |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.01 sec)

mysql> select m.mid, m.mname, bi.dreturn, bi.dreturned from members m join bissue bi on m.mid = bi.mid where dreturn != dreturned;
+-----+-----+-----+-----+
| mid | mname | dreturn | dreturned |
+-----+-----+-----+-----+
| 002 | abdhu1 | 2012-05-06 | 2012-05-16 |
| 003 | gayan | 2012-04-16 | 2012-04-20 |
| 004 | radha | 2012-04-16 | 2012-04-20 |
| 005 | mohan | 2012-04-15 | 2012-04-20 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

```

```

mysql> select mid, mname from members where mid not in (select bi.mid from bissue bi join fine f on f.frange = bi.frange where year(dreturn) = 2012 group by bi.mid having sum(f.famount) > 0);
+-----+-----+
| mid | mname |
+-----+-----+
| 006 | MOHAN |
+-----+-----+

```

```

Select MySQL 8.0 Command Line Client
mysql> desc bdetails;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| bcode | varchar(10) | NO | PRI | NULL | |
| btitle | varchar(50) | NO | | NULL | |
| category | varchar(15) | NO | | NULL | |
| author | varchar(30) | NO | | NULL | |
| publication | varchar(30) | YES | | NULL | |
| pdate | date | YES | | NULL | |
| bedition | int | YES | | NULL | |
| price | decimal(8,2) | NO | | NULL | |
| rno | varchar(3) | YES | | NULL | |
| darrival | date | NO | | NULL | |
| sid | varchar(3) | NO | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> select count(rno) , rno from bdetails group by rno order by count(rno);
+-----+-----+
| count(rno) | rno |
+-----+-----+
| 4 | A3 |
| 6 | A1 |
+-----+-----+
2 rows in set (0.00 sec)

```

```

MySQL 8.0 Command Line Client - Unicode
mysql> select bcode, author, btitle
->
-> from bdetails
->
-> where author like 'p%';
+-----+-----+-----+
| bcode | author | btitle |
+-----+-----+-----+
| BL000003 | Paul J. Deitel | Java How To Do Program |
| BL000005 | Paul J. Deitel | Java How To Do Program |
| BL000010 | Paul J. Deitel | Java ForvDummies |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select count(category) no_of_books
->
-> from bdetails
->
-> where category = 'java';
+-----+
| no_of_books |
+-----+
| 6 |
+-----+
1 row in set (0.00 sec)

mysql> select category, count(category)
->
-> from bdetails
->
-> where category = 'java' or category = 'c'
->
-> group by category;
+-----+-----+
| category | count(category) |
+-----+-----+
| JAVA | 6 |
| C | 4 |
+-----+-----+
2 rows in set (0.00 sec)

```

```

mysql> select mid, mname name, city
->
-> from members
->
-> where city = 'delhi' or city = 'chennai';
+-----+-----+-----+
| mid | name | city |
+-----+-----+-----+
| 001 | amit | chennai |
| 002 | abdhu1 | delhi |
| 003 | gayan | chennai |
| 004 | radha | chennai |
| 005 | mohan | chennai |
| 006 | MOHAN | CHENNAI |
+-----+-----+-----+
6 rows in set (0.00 sec)

```

```
mysql> select concat(bttitle,'_Is_Written_by_',author)
->
-> from bdetails;
```

concat(bttitle,'_Is_Written_by_',author)
Java: The Complete Reference _Is_Written_by_Herbert Schildt
Java How To Do Program_Is_Written_by_Paul J. Deitel
Java: The Complete Reference _Is_Written_by_Herbert Schildt
Java How To Do Program_Is_Written_by_Paul J. Deitel
Java: The Complete Reference _Is_Written_by_Herbert Schildt
Let Us C_Is_Written_by_Yashavant Kanetkar
Let Us C_Is_Written_by_Yashavant Kanetkar
Let Us C#_Is_Written_by_Yashavant Kanetkar
Java ForvDummies_Is_Written_by_Paul J. Deitel
Let Us C++_Is_Written_by_Yashavant Kanetkar

```
10 rows in set (0.00 sec)
```

```
mysql> select sid,sname,email
-> from supply_details
-> where email like '%gmail%';
```

sid	sname	email
s01	singapore shoppee	sing@gmail.com

```
1 row in set (0.00 sec)
```

```
mysql> select sid,sname,email
-> from supply_details
-> where email like '%gmail%';
```

sid	sname	email
s01	singapore shoppee	sing@gmail.com

```
1 row in set (0.00 sec)
```

```
mysql> select bcode,bttitle,rno
->
-> from bdetails
->
-> where rno='A1'
->
->
-> ORDER BY Bttitle;
```

bcode	bttitle	rno
BL000010	Java ForvDummies	A1
BL000003	Java How To Do Program	A1
BL000005	Java How To Do Program	A1
BL000002	Java: The Complete Reference	A1
BL000004	Java: The Complete Reference	A1
BL000006	Java: The Complete Reference	A1

```
6 rows in set (0.00 sec)
```

```
mysql> select bcode,btitle,rno
```

```
->
```

```
-> from bdetails
```

```
->
```

```
-> where rno='A1'
```

```
->
```

```
->
```

```
-> ORDER BY Btitle;
```

bcode	btitle	rno
BL000010	Java ForvDummies	A1
BL000003	Java How To Do Program	A1
BL000005	Java How To Do Program	A1
BL000002	Java: The Complete Reference	A1
BL000004	Java: The Complete Reference	A1
BL000006	Java: The Complete Reference	A1

```
6 rows in set (0.00 sec)
```

```
mysql> select m.mid,m.mname,m.rdate
```

```
->
```

```
-> from members m
```

```
->
```

```
-> where mid not in(select mid from bissue);
```

mid	mname	rdate
006	MOHAN	2012-04-12

```
1 row in set (0.00 sec)
```

```

mysql> select count(dissue) , dissue from bissue
->
-> group by bcode
->
-> having count(dissue) in
->
-> (select count(dissue)
->
-> from bissue
->
-> group by dissue
->
-> order by count(dissue) desc);

```

count(dissue)	dissue
1	2012-05-01
1	2012-04-01
1	2012-04-01
2	2012-03-30
1	2012-05-01

5 rows in set (0.00 sec)

```

mysql> select btitle,sid
->
-> from bdetails
->
-> where author like 'h%'
->
-> and sid='S01'
->
-> and bedition=5;

```

btitle	sid
Java: The Complete Reference	S01

1 row in set (0.00 sec)

```

mysql> select bcode,btitle,pdate
->
-> from bdetails
->
-> where month(pdate)=12;

```

bcode	btitle	pdate
BL000005	Java How To Do Program	1999-12-10
BL000007	Let Us C	2010-12-11
BL000010	Java ForvDummies	1999-12-10