

Database Schema for a Student Library scenario

Student(Stud_no : integer, Stud_name: string)

Membership(Mem_no: integer, Stud_no: integer)

Book(book_no: integer, book_name:string, author: string)

Iss_rec(iss_no:integer, iss_date: date, Mem_no: integer,
book_no: integer)

1. Create the tables with the appropriate integrity constraints

```
CREATE table Student( stud_no int primary key, stud_name varchar(50) );
```

```
CREATE table Membership( mem_no int primary key, stud_no int );
```

```
CREATE table Book( book_no int primary key, book_name varchar(50), author varchar(50) );
```

```
CREATE table Iss_rec( iss_no int primary key, iss_date date, Mem_no int, book_no int );
```

Output: table created

2. Insert around 10 records in each of the tables

```
Insert into Student values(1, 'bhavini');
```

```
Insert into Student values(2, 'karunya');
```

```
Insert into Student values(3, 'yashika');
```

```
Insert into Student values(4, 'aditya');
```

```
Insert into Student values(5, 'nehal');
```

```
Insert into Student values(6, 'ishita');
```

```
Insert into Student values(7, 'titiksha');
```

```
Insert into Student values(8, 'anshee');
```

```
Insert into Student values(9, 'anubhuti');
```

```
Insert into Student values(10, 'manav');
```

```
Select * from Student;
```

	stud_no	stud_name
1	1	bhavini
2	2	karunya
3	3	yashika
4	4	aditya
5	5	nehal
6	6	ishita
7	7	titiksha
8	8	anshee
9	9	anubhuti
10	10	manav

```
Insert into Membership values(101, 5);
```

```
Insert into Membership values(102, 6);
```

```
Insert into Membership values(103, 7);
```

```
Insert into Membership values(104, 8);
```

```
Insert into Membership values(105, 9);
```

```
Insert into Membership values(106, 3);
Insert into Membership values(107, 1);
Insert into Membership values(108, 5);
Insert into Membership values(109, 7);
Insert into Membership values(110, 9);
Select * from Membership;
```

	mem_no	stud_no
1	101	5
2	102	6
3	103	7
4	104	8
5	105	9
6	106	3
7	107	1
8	108	5
9	109	7
10	110	9

```
Insert into Book values(201,'Harry Potter','J.K. Rowling');
Insert into Book values(202,'Lord of the Rings','J.R.R. Tolkien');
Insert into Book values(203,'Game of Thrones','GRR Martin');
Insert into Book values(204,'Hunger Games','Suzanne Colins');
Insert into Book values(205,'Divergent','Veronica Roth');
Insert into Book values(206,'Percy Jackson','Rick Rordian');
Insert into Book values(207,'Diary of a Young Girl','Anne Frank');
Insert into Book values(208,'Kite Runner','Khaled Housenni');
Insert into Book values(209,'Da Vinci Code','Dan Brown');
Insert into Book values(210,'Ink Heart','Cornelia Funke');
Select * from Book
```

	book_no	book_name	author
1	201	Harry Potter	J.K....
2	202	Lord of the...	J.R.R. Tolkien
3	203	Game of Thrones	GRR...
4	204	Hunger...	Suzanne Collins
5	205	Divergent	Veronica...
6	206	Percy Jackson	Rick...
7	207	Diary of a Youn...	Anne Frank
8	208	Kite Runner	Khaled...
9	209	Da Vinci Code	Dan...
10	210	Ink Heart	Cornelia...

```

Insert into Iss_rec values(301,'20-SEP-2020', 110, 201);
Insert into Iss_rec values(302,'19-SEP-2020', 109, 202);
Insert into Iss_rec values(303,'19-SEP-2020', 108, 203);
Insert into Iss_rec values(304,'18-SEP-2020', 107, 204);
Insert into Iss_rec values(305,'17-SEP-2020', 106, 205);
Insert into Iss_rec values(306,'16-SEP-2020', 105, 206);
Insert into Iss_rec values(307,'15-SEP-2020', 104, 207);
Insert into Iss_rec values(308,'15-SEP-2020', 103, 208);
Insert into Iss_rec values(309,'14-SEP-2020', 102, 209);
Insert into Iss_rec values(310,'13-SEP-2020', 101, 210);
Select * from Iss_rec;

```

	iss_no	iss_date	Mem_no	book_no
1	301	20-SEP-2020	110	201
2	302	19-SEP-2020	109	202
3	303	19-SEP-2020	108	203
4	304	18-SEP-2020	107	204
5	305	17-SEP-2020	106	205
6	306	16-SEP-2020	105	206
7	307	15-SEP-2020	104	207
8	308	15-SEP-2020	103	208
9	309	14-SEP-2020	102	209
10	310	13-SEP-2020	101	210

3. List all the student names with their membership numbers

```

Select s.stud_name, m.mem_no from Student s, Membership m where
m.stud_no=s.stud_no;

```

	stud_name	mem_no
1	nehal	101
2	ishita	102
3	titiksha	103
4	anshee	104
5	anubhuti	105
6	yashika	106
7	bhavini	107
8	nehal	108
9	titiksha	109
10	anubhuti	110

4. List all the issues for the current date with student and Book names

```
select s.stud_name, b.book_name from iss_rec i, membership m, student s, book b
where i.mem_no=m.mem_no and m.stud_no=s.stud_no and i.iss_date=to_char(sysdate)
and b.book_no = i.book_no;
```

5. List the details of students who borrowed book whose author is CJDATE

```
Select * from Student where stud_no in(select stud_no from membership where
mem_no in (select mem_no from iss_rec where book_no in(select book_no from book
where author= 'CJDATE')));
```

no data found

6. Give a count of how many books have been bought by each student

```
Select s.stud_no, count(i.book_no) from Student s, Membership m, Book b, Iss_rec i
where s.stud_no=m.stud_no and b.book_no=i.book_no and i.mem_no = m.mem_no
group by s.stud_no;
```

	stud_no	count(i.book_no)
1	1	1
2	3	1
3	5	2
4	6	1
5	7	2
6	8	1
7	9	2

7. Give a list of books taken by student with stud_no as 5

Select book_name from Book where book_no in (select book_no from Iss_rec where mem_no in(select mem_no from membership where stud_no in(select stud_no from student where stud_no=5)));

	book_name
1	Game of Thrones
2	Ink Heart

8. List the book details which are issued as of today

Select * from Book where book_no in(Select book_no from Iss_rec where iss_date=to_char(sysdate));

BOOK_NO	BOOK_NAME	AUTHOR
201	Harry Potter	J.K. Rowling

9. Create a view which lists out the iss_no, iss_date, stud_name, book name

Create view book_iss as(Select ir.iss_no, ir.iss_date, s.stud_name, b.book_name from Book b, Iss_rec ir, Student s, Membership mm where s.stud_no = mm.stud_no and ir.mem_no = mm.mem_no and b.book_no = ir.book_no);
Select * from book_iss;

10. Create a view which lists the daily issues-date wise for the last one week

create view view1 as select i.iss_no, i.iss_date, s.stud_name, b.book_name from iss_rec i, membership m, student s, book b where i.mem_no=m.mem_no and m.stud_no=s.stud_no and i.book_no=b.book_no and iss_date<'20-SEP-20' and iss_date>'13-SEP-20';
select * from view1;

	iss_no	iss_date	stud_name	book_name
1	302	19-SEP-2020	titiksha	Lord of the...
2	303	19-SEP-2020	nehal	Game of Thrones
3	304	18-SEP-2020	bhavini	Hunger...
4	305	17-SEP-2020	yashika	Divergent
5	306	16-SEP-2020	anubhuti	Percy Jackson
6	307	15-SEP-2020	anshee	Diary of a Youn...
7	308	15-SEP-2020	titiksha	Kite Runner
8	309	14-SEP-2020	ishita	Da Vinci Code
9	310	13-SEP-2020	nehal	Ink Heart