# **LIBRARY MANAGEMENT SYSTEM**

# **IMPLEMENTATION**

In this phase we will create tables based on the design done in the first phase using SQL queries and will write select queries to retrieve information from database based on various criteria.

## **Creating Tables**

#### **Publisher Table:**

```
>>Create table publisher
(
     pub_id int primary key,
     pub_name varchar(60),
     contact_no int,
     address varchar(60)
);
```

>>insert into publisher values(01,'Rahul',9899675432,'New Delhi');

EDIT	PUB_ID	PUB_NAME	CONTACT_NO	ADDRESS	
	1	Rahul	9899675432	New Delhi	
	2	Monty	9856434032	New Delhi	
		row(s) 1 - 2 of 2			

#### Student Table:

```
>>create table student
(
    student_id int primary key,
    name varchar(60),
```

```
department varchar(60),
semester int,
contact_no int
);
```

>>insert into student values('1','Ankit','COE',4,9867345430);

EDIT	STUDENT_ID	NAME	DEPARTMENT	SEMESTER	CONTACT_NO
	1	Ankit	COE	4	9867345430
	2	Nidhi	COE	3	9987563280
	3	Divya	COE	2	9978345340
	4	Manu	COE	1	9978356340
				row(s)	1 - 4 of 4

## Books Table:

```
>>create table books
(
         book_id char primary key,
         pub_id int,
         title varchar(60),
         category varchar(60),
         price int,
         foreign key(pub_id) references publisher
);
```

>>insert into book values('B',01,'CSO','Computer Science',430);

EDIT	BOOK_ID	PUB_ID	TITLE	CATEGORY	PRICE
	В	1	CSO	Computer Science	430
	Α	2	DBMS	Computer Science	280
	С	1	os	Computer Science	340
				row(s) 1 - 3 of 3	

# **Author Table:**

```
>>create table author
(
          author_id char primary key,
          author_name varchar(60),
          contact_no int,
          address varchar(60)
);
```

>>insert into author values ('E','Apoorv',9807646363,'New Delhi');

EDIT	AUTHOR_ID	AUTHOR_NAME	CONTACT_NO	ADDRESS
	F	Agrita	9910549128	New Delhi
	E	Apoorv	9807646363	New Delhi
			row(s) 1 - 2 o	f2

## Issue Table:

```
>>create table issue
(
    book_id char,
    student_id int,
    issue_date char(20),
    return_date char(20),
    fine int default 0,
```

```
remark varchar(30),

primary key(book_id,student_id);

foreign key(book_id) references book,

foreign key(student_id) references student

);

>>insert into issue values ('B',03,'01/03/13','22/03/13',0,'no binding');
```

EDIT	BOOK_ID	STUDENT_ID	ISSUE_DATE	RETURN_DATE	FINE	REMARK
	В	3	01/03/13	22/03/13	0	no binding
	А	2	12/03/13	2/04/13	0	no cover page
				r	ow(s) 1 -	2 of 2

### Writes Table:

```
>>create table writes
(
          book_id char,
          author_id char,
          primary key(book_id,author_id),
          foreign key(author_id) references author,
          foreign key(book_id) references book
);
```

>>insert into writes values ('A','E');

EDIT	BOOK_ID	AUTHOR_ID			
	A	E			
	С	F			
	В	Е			
	В	F			
	С	Е			
row(s) 1 - 5 of 5					

# **QUERIES**

# Query 1:

List the details of students who issued the book from library with book\_id='B'.

 $select\ s.student\_id,i.issue\_date,i.return\_date$ 

from issue i, student s

where i.book\_id='B'

and s.student\_id=i.student\_id

STUDENT_ID	ISSUE_DATE	RETURN_DATE
3	01/03/13	22/03/13

## Query 2:

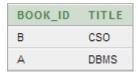
List the books which are available in library.

select b.book\_id,b.title

from book b,issue i

where b.book\_id=i.book\_id

and return\_date is not null



### Query 3:

List the books which are not available in library(i.e. issued to students), also give detail of students to whom these books have been issued.

select b.book\_id,b.title,s.student\_id,s.name,i.issue\_date

from book b,issue i,student s

where b.book\_id=i.book\_id
and s.student\_id=i.student\_id
and i.return\_date is not null

BOOK_ID	TITLE	STUDENT_ID	NAME	ISSUE_DATE
Α	DBMS	2	Nidhi	12/03/13
В	CSO	3	Divya	01/03/13

### Query 4:

List the details of the author of the book 'DBMS'.

select a.author\_id,a.author\_name,a.contact\_no
from author a,book b,writes w
where b.title='DBMS'
and a.author\_id=w.author\_id
and b.book\_id=w.book\_id

AUTHOR_ID	AUTHOR_NAME	CONTACT_NO
E	Apoorv	9807646363

### Query 5:

List the details of the books which are currently issued to student with id '3'.

 $select\ b.book\_id,\ b.title,\ i.issue\_date,remark$ 

from book b,student s,issue i

where i.student\_id=03

and b.book\_id=i.book\_id

and s.student\_id=i.student\_id

and i.return\_date is not null

BOOK_ID	TITLE	ISSUE_DATE	REMARK
В	CSO	01/03/13	no binding

# Query 6:

List down the details of the book written by the publisher='Rahul'.

select b.book\_id, b.title, b.category, b.price
from publisher p, book b
where pub\_name='Rahul'
and b.pub\_id=p.pub\_id

BOOK_ID	TITLE	CATEGORY	PRICE
В	CSO	Computer Science	430
С	os	Computer Science	340

# Query 7:

List the detail of the author of the book='OS'.

select a.author\_id, a.author\_name, a.contact\_no, a.address

from author a, writes w,book b

where b.title='OS'

and b.book\_id=w.book\_id

and a.author\_id=w.author\_id

AUTHOR_ID	AUTHOR_NAME	CONTACT_NO	ADDRESS
F	Agrita	9910549128	New Delhi
E	Apoorv	9807646363	New Delhi