

## **week-1**

**date - 13-07-25**

### **library management system**

create database lms;

use lms;

#### **member table**

create table lms\_members(member\_id varchar(10) primary key,member\_name varchar(30),city varchar(20),date\_register date,date\_expire date,membership\_status varchar(15));

#### **supplier table**

create table lms\_suppliers\_details(supplier\_id varchar(3) primary key,supplier\_name varchar(30),address varchar(50),contact bigint,email varchar(15));

#### **book\_details table**

create table lms\_book\_details(book\_code varchar(10) primary key,book\_title varchar(50),category varchar(15),author varchar(30),publication varchar(30),publish\_date date,book\_edition int,price int,rack\_num varchar(3),date\_arrival date,supplier\_id varchar(3),constraint book\_supplier\_fk foreign key (supplier\_id) references lms\_suppliers\_details(supplier\_id));

#### **fine details table**

create table lms\_fine\_details(fine\_range varchar(3) primary key,fine\_amount int);

#### **book issue table**

create table lms\_book\_issue(book\_issue\_no int primary key,member\_id varchar(10),book\_code varchar(10),date\_issue date,date\_return date,date\_returned date,book\_issue\_status varchar(20),fine\_range varchar(3),constraint issue\_mem\_fk foreign key (member\_id) references lms\_members(member\_id),constraint issue\_bookcode\_fk foreign key (book\_code) references lms\_book\_details(book\_code),constraint issue\_fine\_fk foreign key (fine\_range) references lms\_fine\_details(fine\_range));

#### **problems:**

**Write a query to display the member id, member name, city and membership status who are all having life time membership.**

select member\_id,member\_name,city,membership\_status from lms\_members where membership\_status='Permanent';

Result Grid	Filter Rows:	Edit:	Exp
member_id	member_name	city	membership_status
LM003	GAYAN	CHENNAI	Permanent
NULL	NULL	NULL	NULL

**Write a query to display the member id, member name who have not returned the books**

```
select member_id,member_name from lms_members where member_id in(select member_id from lms_book_issue where book_issue_status='N');
```

member_id	member_name
LM001	AMIT
LM002	ABDHUL
LM005	GURU
NULL	NULL

**Write a query to display the member id, member name who have taken the book with book code 'BL000002'.**

```
select member_id,member_name from lms_members where member_id in(select member_id from lms_book_issue where book_code='BL000002');
```

member_id	member_name
LM002	ABDHUL
NULL	NULL

**Write a query to display the book code, book title and author of the books whose author name begins with 'P'.**

```
select book_code,book_title,author from lms_book_details where author like 'P%';
```

book_code	book_title	author
BL000001	Java How To Do Program	Paul J. Deitel
BL000003	Java How To Do Program	Paul J. Deitel
BL000005	Java How To Do Program	Paul J. Deitel
NULL	NULL	NULL

**Write a query to display the total number of Java books available in library with alias name 'NO\_OF\_BOOKS'**

```
select count(book_code) as no_of_books from lms_book_details where category='JAVA';
```

no_of_books
6

**Write a query to list the category and number of books in each category with alias name 'NO\_OF\_BOOKS'.**

```
select category, count(book_code) as no_of_books from lms_book_details
```

group by category

	category	no_of_books
▶	JAVA	6
	C	2

**Write a query to display the number of books published by "Prentice Hall" with the alias name "NO\_OF\_BOOKS".**

```
select count(book_code) as no_of_books from lms_book_details where publication='Prentice Hall';
```

Result Grid	Filter Rows:
	no_of_books
▶	3

**Write a query to display the book code, book title of the books which are issued on the date "1st April 2012".**

```
select book_code,book_title from lms_book_details where book_code in
```

```
(select book_code from lms_book_issue where date_issue='2012-04-01');
```

	book_code	book_title
*	NULL	NULL

**Write a query to display the member id, member name, date of registration and expiry date of the members whose membership expiry date is before APR 2013.**

```
select member_id,member_name,date_register,date_expire from lms_members
```

```
where date_expire<'2013-04-01';
```

	member_id	member_name	date_register	date_expire
▶	LM005	GURU	2012-03-30	2013-03-29
*	NULL	NULL	NULL	NULL

**write a query to display the member id, member name, date of registration, membership status of the members who registered before "March 2012" and membership status is "Temporary"**

```
select member_id,member_name,date_register,membership_status from lms_members
```

```
where date_register<'2012-03-01' and membership_status ='Temporary';
```

	member_id	member_name	date_register	membership_status
▶	LM001	AMIT	2012-02-20	Temporary
*	NULL	NULL	NULL	NULL

**Write a query to display the member id, member name who's City is CHENNAI or DELHI.**

```
select member_id,upper(member_name) as Name from lms_members
where city='CHENNAI' or 'DELHI';
```

	member_id	Name
▶	LM001	AMIT
	LM003	GAYAN
	LM004	RADHA
	LM006	MOHAN

**Write a query to concatenate book title, author and display in the following format.**



**Book\_Title\_is\_written\_by\_Author**

```
select distinct(concat('Book_Title_is_written_by_',author)) as BOOK_WRITTEN_BY from
lms_book_details;
```

	BOOK_WRITTEN_BY
▶	Book_Title_is_written_by_Paul J. Deitel
	Book_Title_is_written_by_Herbert Schildt
	Book_Title_is_written_by_Yashavant Kanetkar

**Write a query to display the average price of books which is belonging to 'JAVA' category with alias name "AVERAGEPRICE".**

```
select avg(price) as AVERAGEPRICE from lms_book_details where category='JAVA';
```

Result Grid			 Filter Rows
	AVERAGEPRICE		
▶	675.0000		

**Write a query to display the supplier id, supplier name and email of the suppliers who are all having gmail account.**

```
select supplier_id,supplier_name,email from lms_suppliers_details where email is not null;
```

	supplier_id	supplier_name	email
▶	S01	SINGAPORE SHOPPEE	sing@gmail.com
	S02	JK Stores	jks@yahoo.com
	S03	ROSE BOOK STORE	rose@gmail.com
	S04	KAVARI STORE	kavi@redif.com
	S05	EINSTEN BOOK GALLERY	eingal@aol.com
	S06	AKBAR STORE	akbakst@aol.com
*	NULL	NULL	NULL

**Write a query to display the supplier id, supplier name and contact details. Contact details can be either phone number or email or address with alias name "CONTACTDETAILS". If phone number is null then display email, even if email also null then display the address of the supplier.**

```
select supplier_id,supplier_name,Coalesce(contact,email,address)as CONTACTDETAILS
from lms_suppliers_details;
```

	supplier_id	supplier_name	CONTACTDETAILS
▶	S01	SINGAPORE SHOPPEE	989412355
	S02	JK Stores	994012345
	S03	ROSE BOOK STORE	944441122
	S04	KAVARI STORE	863000145
	S05	EINSTEN BOOK GALLERY	954200001
	S06	AKBAR STORE	785562310

**Write a query to display the supplier id, supplier name and contact. If phone number is null then display 'No' else display 'Yes' with alias name "PHONENUMAVAILABLE".**

```
select supplier_id,supplier_name,contact,
case
when contact is null then 'NO'
else 'YES'
end as PHONENUMAVAILABLE
from lms_suppliers_details;
```

	supplier_id	supplier_name	contact	PHONENUMAVAILABLE
▶	S01	SINGAPORE SHOPPEE	989412355	YES
	S02	JK Stores	994012345	YES
	S03	ROSE BOOK STORE	944441122	YES
	S04	KAVARI STORE	863000145	YES
	S05	EINSTEN BOOK GALLERY	954200001	YES
	S06	AKBAR STORE	785562310	YES

**Write a query to display the member id, member name of the members, book code and book title of**

**the books taken by them**

```
select mem.member_id,mem.member_name,bok.book_code,bok.book_title
from lms_members mem join lms_book_issue book on mem.member_id=book.member_id
join lms_book_details bok on bok.book_code=book.book_code;
```

	member_id	member_name	book_code	book_title
▶	LM001	AMIT	BL000001	Java How To Do Program
	LM002	ABDHUL	BL000002	Java: The Complete Reference
	LM003	GAYAN	BL000007	Let Us C
	LM004	RADHA	BL000005	Java How To Do Program
	LM005	GURU	BL000008	Let Us C

**Write a query to display the total number of books available in the library with alias name “NO\_OF\_BOOKS\_AVAILABLE” (Which is not issued).**

```
select count(*) AS NO_OF_BOOKS_AVAILABLE
from lms_book_details b
where not exists (select 1 from lms_book_issue i
where i.book_code = b.book_code and i.date_returned is null);
```

	NO_OF_BOOKS_AVAILABLE
▶	8

**Write a query to display the member id, member name, fine range and fine amount of the members whose fine amount is less than 100.**

```
select mem.member_id,mem.member_name,b.fine_range,f.fine_amount
from lms_members mem join lms_book_issue b on
mem.member_id=b.member_id join lms_fine_details f
on b.fine_range=f.fine_range
where f.fine_amount<100;
```

	member_id	member_name	fine_range	fine_amount
▶	LM001	AMIT	R1	20
	LM003	GAYAN	R1	20
	LM004	RADHA	R1	20
	LM002	ABDHUL	R2	50
	LM005	GURU	R2	50

**Write a query to display the book code, book title and availability status of the 'JAVA' books whose edition is "6". Show the availability status with alias name "AVAILABILITYSTATUS"**

```
select book.book_code,book.book_title,
       case
         when exists(select 1 from lms_book_issue issue
                     where book.book_code=issue.book_code and date_returned is null)
         then 'Not Available'
         else 'Available'
       end as AVAILABILITYSTATUS
from lms_book_details book
where category='JAVA' and book_edition=6;
```

	book_code	book_title	AVAILABILITYSTATUS
▶	BL000001	Java How To Do Program	Available
	BL000003	Java How To Do Program	Available
	BL000005	Java How To Do Program	Available

**Write a query to display the book code, book title and rack number of the books which are placed in rack 'A1' and sort by book title in ascending order.**

```
select book_code,book_title,rack_num
from lms_book_details
where rack_num='A1'
order by book_title;
```

	book_code	book_title	rack_num
▶	BL000001	Java How To Do Program	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
•	NULL	NULL	NULL

**Write a query to display the member id, member name, due date and date returned of the members who has returned the books after the due date. Hint: Date\_return is due date and Date\_returned is actual book return date.**

```
select mem.member_id,mem.member_name,acc.date_return,acc.date_returned
from lms_members mem join lms_book_issue acc
on mem.member_id=acc.member_id
where acc.date_return<acc.date_returned;
```

	member_id	member_name	date_return	date_returned
▶	LM002	ABDHUL	2012-06-06	2012-11-01
	LM003	GAYAN	2012-05-06	2012-10-05
	LM005	GURU	2012-08-16	2012-08-19

**Write a query to display the member id, member name and date of registration who have not taken any book.**

```
select member_id,member_name,date_register
from lms_members where member_id not in
(select distinct(member_id) from lms_book_issue);
```

	member_id	member_name	date_register
▶	LM006	MOHAN	2012-04-12
•	NULL	NULL	NULL

**Write a Query to display the member id and member name of the members who has not paid any fine in the year 2012.**

```
select member_id,member_name from lms_members
where member_id not in(
```



```
select distinct(member_id) from lms_book_issue
where year(date_issue)='2012' and fine_range is not null);
```

	member_id	member_name
▶	LM006	MOHAN
•	NULL	NULL

**Write a query to display the date on which the maximum numbers of books were issued and the number of books issued with alias name “NOOFBOOKS”**

```
select date_issue,count(book_issue_no) as “NOOFBOOKS”
from lms_book_issue
group by date_issue
having count(book_issue_no)=(select max(book_count)
from (select count(book_issue_no) as book_count
from lms_book_issue
group by date_issue) as t1);
```

	date_issue	“NOOFBOOKS”
▶	2012-05-01	2

**Write a query to list the book title and supplier id for the books authored by “Herbert Schildt” and the book edition is 5 and supplied by supplier ‘S01’.**

```
select book_title,supplier_id from lms_book_details
where
author='Herbert Schildt' and
book_edition=5 and
supplier_id='S01';
```

	book_title	supplier_id
▶	Java: The Complete Reference	S01

**Write a query to display the rack number and the number of books in each rack with alias name “NOOFBOOKS” and sort by rack number in ascending order.**

```
select rack_num,count(book_code) as NOOFBOOKS
from lms_book_details
group by rack_num
order by noofbooks;
```

rack_num	NOOFBOOKS
A3	2
A1	6

**Write a query to display book issue number, member name, date of registration, date of expiry, book title, category, author, price, date of issue, date of return, actual returned date, issue status, fine amount.**

```
select
    i.book_issue_no,
    m.member_name,
    m.date_register,
    m.date_expire,
    b.book_title,
    b.category,
    b.author,
    b.price,
    i.date_issue,
    i.date_return,
    i.date_returned,
    i.book_issue_status,
    f.fine_amount
```

from

lms\_book\_issue i

join

lms\_members m on i.member\_id = m.member\_id

join

lms\_book\_details b on i.book\_code = b.book\_code

join

lms\_fine\_details f on i.fine\_range = f.fine\_range;

Result Grid						
		Filter Rows:		Export:	Wrap Cell Content:	
	book_issue_no	member_name	date_register	date_expire	book_title	
▶	1	AMIT	2012-02-20	2013-11-02	Java How To Do Program	JA
	2	ABDHUL	2012-04-10	2013-04-09	Java: The Complete Reference	JA
	3	GAYAN	2013-05-12	2013-05-14	Let Us C	C
	4	RADHA	2012-04-22	2013-04-21	Java How To Do Program	JA
	5	GURU	2012-03-30	2013-03-29	Let Us C	C

**Write a query to display the book code, title, publish date of the books which is been published in the month of December.**

select

book\_code,

book\_title,

publish\_date

from

lms\_book\_details

where

MONTH(publish\_date) = 12;

	book_code	book_title	publish_date
▶	BL000005	Java How To Do Program	1999-12-10
	BL000007	Let Us C	2010-12-11
	BL000008	Let Us C	2010-12-11
*	NULL	NULL	NULL

**Write a query to display the book code, book title and supplier name of the supplier who has supplied maximum number of books.**

```
select book.book_code,book.book_title,supp.supplier_name
from lms_book_details book join lms_suppliers_details supp
on book.supplier_id=supp.supplier_id
where supp.supplier_id in
(select supplier_id from lms_book_details
group by supplier_id
having count(book_code)=(
(select max(book_count) from(
select supplier_id,count(book_code)as book_count
from lms_book_details
group by supplier_id) as t1)));
```

	book_code	book_title	supplier_name
▶	BL000001	Java How To Do Program	SINGAPORE SHOPPEE
	BL000003	Java How To Do Program	SINGAPORE SHOPPEE
	BL000004	Java: The Complete Reference	SINGAPORE SHOPPEE
	BL000005	Java How To Do Program	SINGAPORE SHOPPEE

**Write a query to display the member id, member name and number of remaining books he/she can take with "REMAININGBOOKS" as alias name.**

```
select
    m.member_id,
    m.member_name,
    3 - COUNT(i.book_issue_no) AS REMAININGBOOKS
```

from

lms\_members m

left join

lms\_book\_issue i on m.member\_id = i.member\_id and i.date\_returned IS NULL

group by

m.member\_id, m.member\_name;

	member_id	member_name	REMAININGBOOKS
▶	LM001	AMIT	3
	LM002	ABDHUL	3
	LM003	GAYAN	3
	LM004	RADHA	3
	LM005	GURU	3
	LM006	MOHAN	3

Result 52

**Write a query to display the supplier id and supplier name of the supplier who has supplied minimum number of books.**

select supplier\_id,supplier\_name from lms\_suppliers\_details

where supplier\_id in(

select supplier\_id from(

select supplier\_id from lms\_book\_details

group by supplier\_id

having count(\*)=(

select min(minc) from(

select supplier\_id,count(\*) as minc

from lms\_book\_details

group by supplier\_id)as t1))as t2);

	supplier_id	supplier_name
▶	S04	KAVARI STORE
*	NULL	NULL

