CREATING TABLES:

MEMBER:

```
CREATE TABLE Member (
    Member_Id NUMBER(5) PRIMARY KEY,
    Member_Name VARCHAR2(30),
    Member_Address VARCHAR2(50),
    Acc_Open_Date DATE,
    Membership_Type VARCHAR2(20),
    Fees_Paid NUMBER(4),
    Max_Books_Allowed NUMBER(2),
    Penalty_Amount NUMBER(7,2)
);
```

BOOKS:

```
CREATE TABLE Books (
    Book_No NUMBER(6) PRIMARY KEY,
    Book_Name VARCHAR2(30),
    Author_Name VARCHAR2(30),
    Cost NUMBER(7,2),
    Category CHAR(10)
);
```

ISSUE:

```
CREATE TABLE Issue (
    Lib_Issue_Id NUMBER(10) PRIMARY KEY,
    Book_No NUMBER(6),
    Member_Id NUMBER(5),
    Issue_Date DATE,
    Return_Date DATE,
    CONSTRAINT fk_book FOREIGN KEY (Book_No) REFERENCES Books(Book_No),
    CONSTRAINT fk_member FOREIGN KEY (Member_Id) REFERENCES
Member(Member_Id)
```

);

INSERTING VALUES INTO TABLES:

MEMBER:

INSERT INTO Member VALUES (101, 'Ravi Kumar', 'Delhi', TO_DATE('15-01-2006','DD-MM-YYYY'), 'Lifetime', 2000, 10, 150.50);

INSERT INTO Member VALUES (102, 'Geeta Iyer', 'Mumbai', TO_DATE('22-07-2006','DD-MM-YYYY'), 'Annual', 1200, 5, 0);

INSERT INTO Member VALUES (103, 'Rajesh Sharma', 'Chennai', TO_DATE('10-12-2005','DD-MM-YYYY'), 'Half Yearly', 800, 3, 50);

INSERT INTO Member VALUES (104, 'Girish Rao', 'Bangalore', TO_DATE('30-09-2006','DD-MM-YYYY'), 'Quarterly', 500, 4, 20);

INSERT INTO Member VALUES(105, 'Anita Desai', 'Hyderabad', TO_DATE('12-03-2007','DD-MM-YYYY'), 'Lifetime', 2000, 8, 0);

BOOKS:

INSERT INTO Books VALUES (5001, 'Mastering SQL', 'Loni', 550, 'Database');

INSERT INTO Books VALUES (5002, 'Science World', 'Ramesh', 700, 'Science');

INSERT INTO Books VALUES (5003, 'Fiction Tales', 'Loni', 450, 'Fiction');

INSERT INTO Books VALUES (5004, 'Database Design', 'Nina', 650, 'Database');

INSERT INTO Books VALUES (5005, 'Advanced Management', 'Sunil', 900, 'Management');

INSERT INTO Books VALUES (5006, 'RDBMS Guide', 'Kiran', 800, 'RDBMS');

INSERT INTO Books VALUES (5007, 'SQL for Experts', 'Meera', 750, 'Database');

INSERT INTO Books VALUES (5008, 'General Knowledge', 'Anand', 300, 'Others');

ISSUE:

INSERT INTO Issue VALUES (7001, 5001, 101, TO_DATE('01-06-2006','DD-MM-YYYY'), TO_DATE('20-06-2006','DD-MM-YYYY'));

INSERT INTO Issue VALUES (7002, 5002, 101, TO_DATE('15-06-2006','DD-MM-YYYY'), NULL);

INSERT INTO Issue VALUES (7003, 5003, 102, TO_DATE('10-07-2006','DD-MM-YYYY'), TO_DATE('25-08-2006','DD-MM-YYYY'));

INSERT INTO Issue VALUES (7004, 5004, 103, TO_DATE('12-07-2006','DD-MM-YYYY'), NULL);

INSERT INTO Issue VALUES (7005, 5005, 104, TO_DATE('20-07-2006','DD-MM-YYYY'), NULL);

INSERT INTO Issue VALUES (7006, 5006, 104, TO_DATE('25-07-2006','DD-MM-YYYY'), NULL);

INSERT INTO Issue VALUES (7007, 5007, 105, TO_DATE('01-08-2006','DD-MM-YYYY'), TO_DATE('28-08-2006','DD-MM-YYYY'));

INSERT INTO Issue VALUES (7008, 5008, 103, TO_DATE('10-09-2006','DD-MM-YYYY'), NULL);

BOOKS:

	BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY
1	5001	Mastering SQL	Loni	550	Database
2	5002	Science World	Ramesh	700	Science
3	5003	Fiction Tales	Loni	450	Fiction
4	5004	Database Design	Nina	650	Database
5	5005	Advanced Managem	Sunil	900	Management
6	5006	RDBMS Guide	Kiran	800	RDBMS
7	5007	SQL for Experts	Meera	750	Database
8	5008	General Knowledge	Anand	300	Others

MEMBERS:

MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
101	Ravi Kumar	Delhi	1/15/2006, 12:00:0(	Lifetime	2000	10	150.5
102	Geeta Iyer	Mumbai	7/22/2006, 12:00:0(	Annual	1200	5	0
103	Rajesh Sharma	Chennai	12/10/2005, 12:00:(	Half Yearly	800	3	50
104	Girish Rao	Bangalore	9/30/2006, 12:00:0(	Quarterly	500	4	20
105	Anita Desai	Hyderabad	3/12/2007, 12:00:0(	Lifetime	2000	8	0

ISSUE:

LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
7001	5001	101	6/1/2006, 12:00:00	6/20/2006, 12:00:0(
7002	5002	101	6/15/2006, 12:00:0(	(null)
7003	5003	102	7/10/2006, 12:00:0(	8/25/2006, 12:00:0(
7004	5004	103	7/12/2006, 12:00:0(	(null)
7005	5005	104	7/20/2006, 12:00:0(	(null)
7006	5006	104	7/25/2006, 12:00:0(	(null)
7007	5007	105	8/1/2006, 12:00:00	8/28/2006, 12:00:0(
7008	5008	103	9/10/2006, 12:00:0(	(null)

TASKS:

1.List all the books that are written by Author Loni and has price less then 600.

select * from books where AUTHOR_NAME='Loni' and cost<600;

	BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY
1	5001	Mastering SQL	Loni	550	Database
2	5003	Fiction Tales	Loni	450	Fiction

2.List the Issue details for the books that are not returned yet.

select * from issue where return_date is null;

LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
7002	5002	101	6/15/2006, 12:00:0(	(null)
7004	5004	103	7/12/2006, 12:00:0(	(null)
7005	5005	104	7/20/2006, 12:00:0(	(null)
7006	5006	104	7/25/2006, 12:00:0(	(null)
7008	5008	103	9/10/2006, 12:00:0(	(null)

3.Update all the blank return_date with 31-Dec-06 excluding 7005 and 7006.

update ISSUE set return_date='31-Dec-06' where lib_issue_id not in (7005,7006) and return_date is null
select * from issue;

LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
7001	5001	101	6/1/2006, 12:00:00	6/20/2006, 12:00:0(
7002	5002	101	6/15/2006, 12:00:0(	12/31/2006, 12:00:(
7003	5003	102	7/10/2006, 12:00:0(	8/25/2006, 12:00:0(
7004	5004	103	7/12/2006, 12:00:0(	12/31/2006, 12:00:(
7005	5005	104	7/20/2006, 12:00:0(	(null)
7006	5006	104	7/25/2006, 12:00:0(	(null)
7007	5007	105	8/1/2006, 12:00:00	8/28/2006, 12:00:0(
7008	5008	103	9/10/2006, 12:00:0(	12/31/2006, 12:00:(

4. List all the Issue details that have books issued for more then 30 days.

SELECT * FROM ISSUE WHERE RETURN_DATE-ISSUE_DATE>30;

LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
7002	5002	101	6/15/2006, 12:00:0(	12/31/2006, 12:00:(
7003	5003	102	7/10/2006, 12:00:0(	8/25/2006, 12:00:0(
7004	5004	103	7/12/2006, 12:00:0(	12/31/2006, 12:00:(
7008	5008	103	9/10/2006, 12:00:0(	12/31/2006, 12:00:(

5. List all the books that have price in range of 500 to 750 and has category as Database.

select BOOK_NAME from books where cost between 500 and 750 and category='Database';

BOOK_NAME
Mastering SQL
Database Design
SQL for Experts

6. List all the books that belong to any one of the following categories Science, Database, Fiction, Management.

select book_name from books where category in ('Database','Fiction','Management' ,'science');

BOOK_NAME
Mastering SQL
Fiction Tales
Database Design
Advanced Manageme
SQL for Experts

7. List all the members in the descending order of Penalty due on them.

select * from member order by PENALTY_AMOUNT DESC;

MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
101	Ravi Kumar	Delhi	1/15/2006, 12:00:0(	Lifetime	2000	10	150.5
103	Rajesh Sharma	Chennai	12/10/2005, 12:00:(	Half Yearly	800	3	50
104	Girish Rao	Bangalore	9/30/2006, 12:00:0(	Quarterly	500	4	20
105	Anita Desai	Hyderabad	3/12/2007, 12:00:0(	Lifetime	2000	8	0
102	Geeta Iyer	Mumbai	7/22/2006, 12:00:0(	Annual	1200	5	0

8.List all the books in ascending order of category and descending order of price.

select * from BOOKS ORDER by CATEGORY ASC,COST DESC;

	BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY
1	5007	SQL for Experts	Meera	750	Database
2	5004	Database Design	Nina	650	Database
3	5001	Mastering SQL	Loni	550	Database
4	5003	Fiction Tales	Loni	450	Fiction
5	5005	Advanced Managem(	Sunil	900	Management
6	5008	General Knowledge	Anand	300	Others
7	5006	RDBMS Guide	Kiran	800	RDBMS
8	5002	Science World	Ramesh	700	Science

9.List all the books that contain word SQL in the name of the book.

select * from BOOKS where BOOK_NAME like '%SQL%';

BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY
5001	Mastering SQL	Loni	550	Database
5007	SQL for Experts	Meera	750	Database

10.List all the members whose name starts with R or G and contains letter I in it.

select * from MEMBER where MEMBER_NAME like 'R%I%' or MEMBER_NAME like 'G%I%' or MEMBER_NAME like 'R%i%' or MEMBER_NAME like 'G%i%';

MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
101	Ravi Kumar	Delhi	1/15/2006, 12:00:0(	Lifetime	2000	10	150.5
102	Geeta Iyer	Mumbai	7/22/2006, 12:00:0(	Annual	1200	5	0
104	Girish Rao	Bangalore	9/30/2006, 12:00:0(	Quarterly	500	4	20

11. List the entire book name in Init cap and author in upper case in the descending order of the book name.

SELECT INITCAP(book_name) as "Book_name", upper(author_name) as "Author_name" from books order by book_name desc;

BOOK_NAME	AUTHOR_NAME
Science World	RAMESH
Sql For Experts	MEERA
Rdbms Guide	KIRAN
Mastering Sql	LONI
General Knowledge	ANAND
Fiction Tales	LONI
Database Design	NINA
Advanced Managem	SUNIL

12. List the Issue Details for all the books issue by member 101 with Issue_date and Return Date in following format. 'Monday, July, 10, 2006'.

SELECT LIB_ISSUE_ID,BOOK_NO,TO_CHAR(ISSUE_DATE,'DAY,MONTH,DD,YYYY,') AS ISSUE_DATE , TO_CHAR(RETURN_DATE,'DAY,MONTH,DD,YYYY,') AS RETURN_DATE FROM ISSUE WHERE MEMBER_ID=101;

LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
7001	5001	101	THURSDAY ,JUNE ,01,2006	TUESDAY ,JUNE ,20,2006
7002	5002	101	THURSDAY ,JUNE ,15,2006	SUNDAY ,DECEMBER ,31,2006

13. List the data in the book table with category data displayed as D for Database, S for Science, R for RDBMS and O for all the others.

SELECT

Book_No,

Book_Name,

Author_Name,

Cost,

```
    CASE

      WHEN Category = 'Database' THEN 'D'

      WHEN Category = 'Science'  THEN 'S'

      WHEN Category = 'RDBMS'    THEN 'R'

      ELSE 'O'

    END AS Category_Code

  FROM Books;
```

BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY_CODE
5001	Mastering SQL	Loni	550	D
5002	Science World	Ramesh	700	S
5003	Fiction Tales	Loni	450	O
5004	Database Design	Nina	650	D
5005	Advanced Managem(	Sunil	900	O
5006	RDBMS Guide	Kiran	800	R
5007	SQL for Experts	Meera	750	D
5008	General Knowledge	Anand	300	O

14. List all the members that became the member in the year 2006.

```
    SELECT * from MEMBER WHERE TO_CHAR(ACC_OPEN_DATE,'YYYY')=2006;
```

MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
101	Ravi Kumar	Delhi	1/15/2006, 12:00:0(	Lifetime	2000	10	150.5
102	Geeta Iyer	Mumbai	7/22/2006, 12:00:0(	Annual	1200	5	0
104	Girish Rao	Bangalore	9/30/2006, 12:00:0(	Quarterly	500	4	20

15. List the Lib_Issue_Id, Issue_Date, Return_Date and No of days
Book was issued.

```
  SELECT LIB_ISSUE_ID,ISSUE_DATE,RETURN_DATE,CASE

                  when RETURN_DATE is NULL THEN SYSDATE-ISSUE_DATE

                  ELSE RETURN_DATE-ISSUE_DATE

                  END as Days from ISSUE;
```

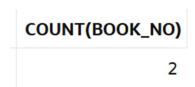| LIB_ISSUE_ID	ISSUE_DATE	RETURN_DATE	DAYS
7001	6/1/2006, 12:00:00 AM	6/20/2006, 12:00:00 AM	19
7002	6/15/2006, 12:00:00 AM	12/31/2006, 12:00:00 AM	199
7003	7/10/2006, 12:00:00 AM	8/25/2006, 12:00:00 AM	46
7004	7/12/2006, 12:00:00 AM	12/31/2006, 12:00:00 AM	172
7005	7/20/2006, 12:00:00 AM	(null)	6976.741655092593
7006	7/25/2006, 12:00:00 AM	(null)	6971.741655092593
7007	8/1/2006, 12:00:00 AM	8/28/2006, 12:00:00 AM	27
7008	9/10/2006, 12:00:00 AM	12/31/2006, 12:00:00 AM	112

16. Find the details of the member of the Library in the order of their joining the library.

SELECT * FROM MEMBER ORDER BY ACC_OPEN_DATE ASC;

MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
103	Rajesh Sharma	Chennai	12/10/2005, 12:00:0	Half Yearly	800	3	50
101	Ravi Kumar	Delhi	1/15/2006, 12:00:0(	Lifetime	2000	10	150.5
102	Geeta Iyer	Mumbai	7/22/2006, 12:00:0(	Annual	1200	5	0
104	Girish Rao	Bangalore	9/30/2006, 12:00:0(	Quarterly	500	4	20
105	Anita Desai	Hyderabad	3/12/2007, 12:00:0(	Lifetime	2000	8	0

17. Display the count of total no of books issued to Member 101.

SELECT COUNT(BOOK_NO) FROM ISSUE WHERE MEMBER_ID=101;

COUNT(BOOK_NO)

2

18. Display the total penalty due for all the members.

SELECT SUM(PENALTY_AMOUNT) FROM MEMBER;

SUM(PENALTY_AMOUNT)

220.5

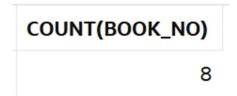**19. Display the total no of members**

SELECT COUNT(MEMBER_ID) FROM MEMBER;

COUNT(MEMBER_ID)
5

20.Display the total no of books issued

SELECT COUNT(BOOK_NO) FROM ISSUE;

COUNT(BOOK_NO)
8

21.Display the average membership fees paid by all the members

SELECT AVG(FEES_PAID) FROM MEMBER

AVG(FEES_PAID)
1300

22.Display no of months between issue date and return date for all issue

SELECT MONTHS_BETWEEN(RETURN_DATE,ISSUE_DATE) FROM ISSUE

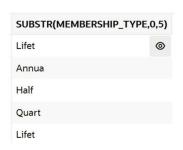| MONTHS_BETWEEN(RETURN_DATE,ISSUE_DATE) |
|---|
| 0.6129032258064516 |
| 6.516129032258065 |
| 1.4838709677419355 |
| 5.612903225806452 |
| (null) |
| (null) |
| 0.8709677419354839 |
| 3.6774193548387095 |

23.Display the length of member's name

SELECT MEMBER_NAME,LENGTH(MEMBER_NAME) AS LENGTH FROM MEMBER;

MEMBER_NAME	LENGTH
Ravi Kumar	10
Geeta Iyer	10
Rajesh Sharma	13
Girish Rao	10
Anita Desai	11

24.Display the first 5 characters of membership_type for all members

SELECT SUBSTR(MEMBERSHIP_TYPE,0,5) FROM MEMBER;

SUBSTR(MEMBERSHIP_TYPE,0,5)	
Lifet	👁
Annua	
Half	
Quart	
Lifet	

25.Display the last day of the month of issue date

SELECT ISSUE_DATE,TO_CHAR(LAST_DAY(ISSUE_DATE),'DAY') AS LAST_DAY FROM ISSUE;

ISSUE_DATE	LAST_DAY
6/1/2006, 12:00:00 AM	FRIDAY
6/15/2006, 12:00:00 AM	FRIDAY
7/10/2006, 12:00:00 AM	MONDAY
7/12/2006, 12:00:00 AM	MONDAY
7/20/2006, 12:00:00 AM	MONDAY
7/25/2006, 12:00:00 AM	MONDAY
8/1/2006, 12:00:00 AM	THURSDAY
9/10/2006, 12:00:00 AM	SATURDAY