Ex. No: 04	JOINS AND SET OPERATIONS
Date	06-02-24

Objective:

To execute the given queries using set operators and joins.

Description:

Set Operators

The three *set operators* union, intersect and minus allow to serially combine more than one select statements. Although more than one select statement will then be present, only *one* result set is then returned. The following list briefly describes the three set operations supported by Oracle SQL:

1) UNION

union all is very similar to union, however, it dismisses duplicate rows found across different select statements:

```
select col_1, col_2, col_3 from table_1 union select col_1, col_2, col_3 from table_2;
```

2) INTERSECT

intersect only returns the rows that are found in all select statements:

```
select col_1, col_2, col_3 from table_1 intersect select col_1, col_2, col_3 from table_2;
```

3) MINUS

minus returns all rows from the first select statements except those who are duplicated in a following select statement:

```
select col_1, col_2, col_3 from table_1 minus select col_1, col_2, col_3 from table_2; SQL JOIN
```

The JOIN keyword is used in an SQL statement to query data from two or more tables, based on a relationship between certain columns in these tables.

Tables in a database are often related to each other with keys.

Different SQL JOINs

Before we continue with examples, we will list the types of JOIN you can use, and the differences between them.

JOIN: Return rows when there is at least one match in both tables

LEFT JOIN: Return all rows from the left table, even if there are no matches in the right table

RIGHT JOIN: Return all rows from the right table, even if there are no matches in the left

table

FULL JOIN: Return rows when there is a match in one of the tables

SQL INNER JOIN Keyword

The INNER JOIN keyword return rows when there is at least one match in both tables.

Syntax

SELEC column name(s)

FROM table name1

INNER JOIN table_name2

ON table_name1.column_name=table_name2.column_name

PS: INNER JOIN is the same as JOIN.

SQL LEFT JOIN Keyword

The LEFT JOIN keyword returns all rows from the left table (table_name1), even if there are no matches in the right table (table_name2).

Syntax

SELECT column name(s)

FROM table_name1

LEFT OUTER JOIN table name2

ON table name1.column name=table name2.column name

SQL RIGHT JOIN Keyword

The RIGHT JOIN keyword Return all rows from the right table (table_name2), even if there are no matches in the left table (table_name1).

Syntax

SELECT column name(s)

FROM table name1

RIGHT OUTER JOIN table_name2

ON table name1.column name=table name2.column name

SQL FULL JOIN Keyword

The FULL JOIN keyword return rows when there is a match in one of the tables.

Syntax

SELECT column name(s)

FROM table name1

FULL OUTER JOIN table name2

ON table name1.column name=table name2.column name

The JOIN keyword is used in an SQL statement to query data from two or more tables, based on a relationship between certain columns in these tables. Whenever a query is written which refers more than one table that needs the help of joins.

Questions:

1. Retrieve the names of users who have registered for the "Concert in Park" event:

```
SQL> SELECT u.Name
2 FROM User_URK22AI1048 u
3 JOIN Ticket_URK22AI1048 t ON u.UserID = t.UserID
4 JOIN Event_URK22AI1048 e ON t.EventID = e.EventID
5 WHERE e.Name = 'Concert in Park';

NAME

John Smith
Jane Doe
```

2. Find the details of events (name, date, and time) that Sarah Adams has registered for.

```
SQL> SELECT e.Name, e.Description
 2 FROM Event_URK22AI1048 e
 3 LEFT JOIN Ticket_URK22AI1048 t ON e.EventID = t.EventID
 4 WHERE t.TicketID IS NULL;
NAME
DESCRIPTION
Food Festival
A celebration of diverse cuisines.
Comedy Show
Laugh your heart out at our comedy show.
Tech Conference
Join tech experts for informative sessions.
NAME
DESCRIPTION
Dance Workshop
Learn various dance styles in this workshop.
```

3. List the events (name and description) that do not have any registered participants.

```
SQL> SELECT e.Name, e.Description

2 FROM Event_URK22AI1048 e

3 LEFT JOIN Ticket_URK22AI1048 t ON e.EventID = t.EventID

4 WHERE t.TicketID IS NULL;

NAME

DESCRIPTION

Food Festival
A celebration of diverse cuisines.

Comedy Show
Laugh your heart out at our comedy show.

Tech Conference
Join tech experts for informative sessions.

NAME

DESCRIPTION

Dance Workshop
Learn various dance styles in this workshop.
```

4. Retrieve the names of users and the events they have registered for, along with the event dates.

SQL> SELECT u.Name, e.Name, e.EventDate 2 FROM User_URK22AI1048 u 3 JOIN Ticket_URK22AI1048 t ON u.UserID = t.UserID 4 JOIN Event_URK22AI1048 e ON t.EventID = e.EventID;		
NAME	NAME	EVENTDATE
Jane Doe		
John Smith	Concert in Park	15-AUG-23
John Janzen	Concert in Park	15-AUG-23
Sarah Adams	Movie Night	20 AUG 22
Michael Lee	Movie Night	20-AUG-23
Emily Chen		20-AUG-23
David Wang	Sports Tournament	05-SEP-23
pavid wang	Sports Tournament	05-SEP-23
Lisa Lopez	Art Exhibition	
Alex Kim	Art Exhibition	10-AUG-23
SQL> _		10-AUG-23

5. Find the names of users who have registered for events taking place on or after September 1, 2023.

```
SQL> SELECT u.Name

2 FROM User_URK22AI1048 u

3 JOIN Ticket_URK22AI1048 t ON u.UserID = t.UserID

4 JOIN Event_URK22AI1048 e ON t.EventID = e.EventID

5 WHERE e.EventDate >= TO_DATE('2023-09-01', 'YYYY-MM-DD');

NAME

David Wang
Emily Chen

SQL> ____
```

6. Retrieve the names of users who have booked tickets for the "Movie Night" event.

```
SQL> SELECT u.Name

2 FROM User_URK22AI1048 u

3 JOIN Ticket_URK22AI1048 t ON u.UserID = t.UserID

4 JOIN Event_URK22AI1048 e ON t.EventID = e.EventID

5 WHERE e.Name = 'Movie Night';

NAME

Michael Lee
Sarah Adams

SQL> ______
```

7. List the event names, user names, and seat numbers for all booked tickets.

```
      SQL SELECT e. Name, u. Name, t. SeathNumber
      2 FROW User_URX22A11048 t ON u.UserID = t.UserID

      4 JOIN Event_URX22A11048 e ON t.EventID = e.EventID;
      NAME

      NAME
      NAME

      Concert in Park
      Jane Doe
      B2

      Concert in Park
      John Smith
      A1

      Movie Night
      Sarah Adams
      D4

      Sports Tournament
      Emily Chen
      B3

      Sports Tournament
      Emily Chen
      B3

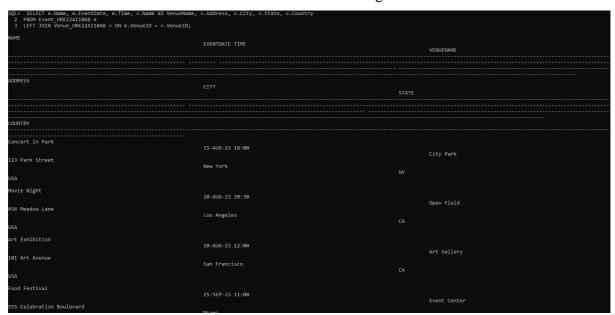
      Art Exhibition
      Lisa Lopez
      A1 Exhibition
      A2

      Art Exhibition
      Alex Kim
      C4
```

8. Find the names of users who have not booked any tickets for any event.

```
SQL> SELECT u.Name
2 FROM User_URK22AI1048 u
3 LEFT JOIN Ticket_URK22AI1048 t ON u.UserID = t.UserID
4 WHERE t.TicketID IS NULL;
```

9. Perform Left Outer Join to Retrieve Event Details along with Venue Information.



10. Perform Full Outer Join to Retrieve Combined Event and Venue Information.



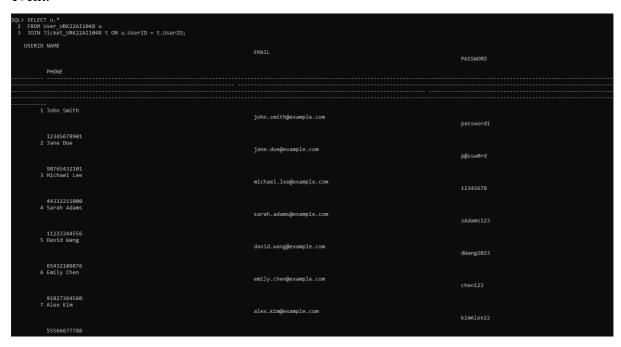
11. Write a query to retrieve a list of unique email addresses from both the User and Event tables using set operations.

12. Write a query to retrieve a list of unique cities where events are scheduled or venues are located.

```
SQL> SELECT TIME FROM Event_URK22AI1048
 3 SELECT City FROM Venue_URK22AI1048;
TIME
09:00
11:00
12:00
14:00
16:00
18:00
19:30
20:30
Boston
Chicago
Houston
Los Angeles
Miami
New York
San Francisco
Seattle
SQL>
```

13. Write a query to display the details of Venue ID conducted in the same Venues.

14. Write a query to display the details of User ID who are users and have registered for an event.



15. Write a query to display the details of Event ID which are events but not booked by any one.



Result:

The given queries executed by the set operations and joins successfully.