Database and

Management System

Lab

Lab Experiment – 8

Name: Aditya Bisht

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B.Tech CSE, SEM-III, B-2

Title: Use of different SQL clauses and join

Objective: To understand the use of group by and having clause

and execute the

SQL commands using JOIN

1. Consider the following schema:

Student (sid, sname, age)

Match (mid, mname, venue)

Play (sid, mid, day(date))

```
CREATE TABLE Student (
   sid INT PRIMARY KEY,
   sname VARCHAR(50),
   age INT
);
CREATE TABLE Match (
   mid VARCHAR(10) PRIMARY KEY,
   mname VARCHAR(50),
   venue VARCHAR(50)
);
CREATE TABLE Play (
   sid INT,
   mid VARCHAR(10),
   day DATE,
   PRIMARY KEY (sid, mid, day),
   FOREIGN KEY (sid) REFERENCES Student(sid),
   FOREIGN KEY (mid) REFERENCES Match(mid)
);
```

2. Populate all the tables.

```
INSERT INTO Student (sid, sname, age) VALUES
(1, 'Amit', 20),
(2, 'Rahul', 21),
(3, 'Priya', 22);

INSERT INTO Match (mid, mname, venue) VALUES
('B10', 'Cricket', 'Delhi'),
('B20', 'Football', 'Mumbai'),
('B30', 'Basketball', 'Delhi');

INSERT INTO Play (sid, mid, day) VALUES
(1, 'B10', '2024-11-01'),
(1, 'B20', '2024-11-02'),
(2, 'B10', '2024-11-01'),
(3, 'B30', '2024-11-03');
```

3. Find all information of students who have played match number B10.

```
SELECT s.*

FROM Student s

JOIN Play p ON s.sid = p.sid

WHERE p.mid = 'B10';
```

sid	sname	age
1	Amit	20
2	Rahul	21

4. Find the name of matches played by Amit.

```
SELECT m.mname
FROM Student s
JOIN Play p ON s.sid = p.sid
JOIN Match m ON p.mid = m.mid
WHERE s.sname = 'Amit';

mname
Cricket
Football
```

5. Find the names of students who have played a match in Delhi.

```
SELECT DISTINCT s.sname

FROM Student s

JOIN Play p ON s.sid = p.sid

JOIN Match m ON p.mid = m.mid

WHERE m.venue = 'Delhi';
```



6. Find the names of students who have played at least one match.

```
SELECT DISTINCT s.sname
FROM Student s
JOIN Play p ON s.sid = p.sid;
```

sname	
Amit	
Rahul	
Priya	

7. Find the ids and names of students who have played two different matches on the same day.

```
SELECT s.sid, s.sname

FROM Student s

JOIN Play p1 ON s.sid = p1.sid

JOIN Play p2 ON s.sid = p2.sid

WHERE p1.mid \Leftrightarrow p2.mid AND p1.day = p2.day

GROUP BY s.sid, s.sname;
```

SQL query successfully executed. However, the result set is empty.

8. Find the ids of students who have played a match in Delhi or Mumbai.

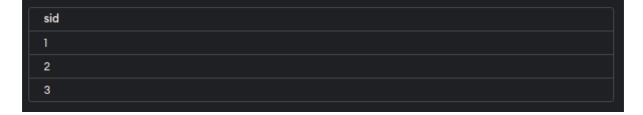
```
SELECT DISTINCT s.sid

FROM Student s

JOIN Play p ON s.sid = p.sid

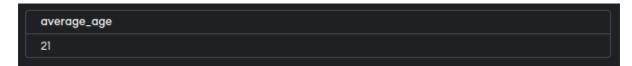
JOIN Match m ON p.mid = m.mid

WHERE m.venue = 'Delhi' OR m.venue = 'Mumbai';
```



9. Find the average age of students.

```
SELECT AVG(age) AS average_age
FROM Student;
```



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Lab Experiment – 9

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B.Tech CSE, SEM-III, B-2

Title: To understand the concepts of Views.

Objective: Students will be able to implement the concept of views

1. Create table of table name: EMPLOYEES and add 6 rows

```
CREATE TABLE EMPLOYEE (
Employee_id CHAR(10) PRIMARY KEY,
First_Name CHAR(30) NOT NULL,
Last_Name CHAR(30) NOT NULL,
DOB DATE,
Salary NUMERIC(25) NOT NULL
);
```

2. Create a View emp_view with Specific Columns

```
CREATE VIEW emp_view AS
SELECT Employee_id, Last_Name, Salary, department_id
FROM EMPLOYEE;
```

3. Insert Values into the View (emp_view)

```
INSERT INTO EMPLOYEE (Employee_id, First_Name, Last_Name, DOB, Salary, department_id)
VALUES ('E001', 'John', 'Doe', '1990-05-21', 45000, 'D10');
```

4. Modify, delete and drop operations are performed on view

```
UPDATE emp_view
SET Salary = 55000
WHERE Employee_id = 'E001';

DELETE FROM emp_view
WHERE Employee_id = 'E001';

DROP VIEW emp_view;
```

5. Creates a view named salary_view. The view shows the employees in department 20 and their annual salary

```
CREATE VIEW salary_view AS
SELECT Employee_id, Last_Name, department_id, (Salary * 12) AS Annual_Salary
FROM EMPLOYEE
WHERE department_id = '20';
```