UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
DEHRADUN

DBMS LAB - 8

Use of different SQL Clauses & Join

MTECH-COMPUTER SCIENCE
ENGINEERING
CYBER SECURITY AND FORENSICS

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Objective: : To understand the use of group by and having clause and execute the SQL commands using JOIN

Query 1: Consider the following schema:

Student (sid, sname, age)
Match (mid, mname, venue)
Play (sid, mid, day(date))

```sql
1    -- Lab 8 : Database Management Systems
2    -- Author : Jigesh Sheoran
3
4    -- Query 1
5    CREATE DATABASE Lab8DB;
6    USE Lab8DB;
7
8    CREATE TABLE Student (
9        sid INT PRIMARY KEY,
10       sname VARCHAR(30),
11       age INT
12   );
13
14   CREATE TABLE MatchTable (
15       mid VARCHAR(10) PRIMARY KEY,
16       mname VARCHAR(30),
17       venue VARCHAR(30)
18   );
19
20   CREATE TABLE Play (
21       sid INT,
22       mid VARCHAR(10),
23       day DATE,
24       FOREIGN KEY (sid) REFERENCES Student(sid),
25       FOREIGN KEY (mid) REFERENCES MatchTable(mid)
26   );
27
```

Query 2: Populate all the tables.

```sql
4    -- Query 2
5    INSERT INTO Student VALUES
6    (1, 'Amit', 20),
7    (2, 'Rohit', 22),
8    (3, 'Neha', 19),
9    (4, 'Karan', 21),
10   (5, 'Priya', 23);
11
12   INSERT INTO MatchTable VALUES
13   ('B10', 'Cricket Finals', 'Delhi'),
14   ('B11', 'Football League', 'Mumbai'),
15   ('B12', 'Badminton Open', 'Chennai'),
16   ('B13', 'Hockey Cup', 'Delhi');
17
18   INSERT INTO Play VALUES
19   (1, 'B10', '2024-01-05'),
20   (2, 'B11', '2024-02-10'),
21   (1, 'B11', '2024-02-10'),
22   (3, 'B10', '2024-01-05'),
23   (4, 'B12', '2024-03-06'),
24   (1, 'B13', '2024-01-05'),
25   (5, 'B11', '2024-02-10'),
26   (2, 'B13', '2024-01-05');
27
28   SELECT * FROM Student, MatchTable, Play;
```

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

```
4       -- Querty 3
5  *    SELECT s.*
6       FROM Student s
7       JOIN Play p ON s.sid = p.sid
8       WHERE p.mid = 'B10';
9
```

100%   12:4

Result Grid   Filter Rows: Search   Export:

sid	sname	age
1	Amit	20
3	Neha	19

Query 4: Find the name of matches played by Amit.

```
4       -- Query 4
5  *    SELECT m.mname
6       FROM Student s
7       JOIN Play p ON s.sid = p.sid
8       JOIN MatchTable m ON p.mid = m.mid
9       WHERE s.sname = 'Amit';
10
11
```

100%   1:10

Result Grid   Filter Rows: Search   Export:

mname
Cricket Finals
Football League
Hockey Cup

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

```
 4    -- Query 5
 5 *  SELECT DISTINCT s.sname
 6    FROM Student s
 7    JOIN Play p ON s.sid = p.sid
 8    JOIN MatchTable m ON p.mid = m.mid
 9    WHERE m.venue = 'Delhi';
10    |
11
```

100%   ↕   1:10

Result Grid | Filter Rows: | Q Search | Export:

sname
Amit
Neha
Rohit

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

```
 4    -- Query 6
 5 *  SELECT DISTINCT s.sname
 6    FROM Student s
 7    JOIN Play p ON s.sid = p.sid;
 8    |
 9
```

100%   ↕   1:8

Result Grid | Filter Rows: | Q Search | Export:

sname
Amit
Rohit
Neha
Karan
Priya

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

```
4       -- Query 7
5 *     SELECT s.sid, s.sname
6       FROM Student s
7       JOIN Play p ON s.sid = p.sid
8       GROUP BY s.sid, s.sname, p.day
9       HAVING COUNT(DISTINCT p.mid) >= 2;
10
```

100%   27:2

Result Grid   Filter Rows: Q Search   Export:

sid	sname
1	Amit

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

```
4       -- Query 8
5 *     SELECT DISTINCT s.sid
6       FROM Student s
7       JOIN Play p ON s.sid = p.sid
8       JOIN MatchTable m ON p.mid = m.mid
9       WHERE m.venue IN ('Delhi', 'Mumbai');
10
```

100%   11:4

Result Grid   Filter Rows: Q Search   Export:

sid
1
3
2
5

Query 9: **Find the average age of students.**

```
4       -- Query 9
5 *     SELECT AVG(age) AS average_age
6       FROM Student;
7
```

100%   1:7

Result Grid   Filter Rows: Q Search   Export:

average_age
21.0000

—--------------------------------END OF DOCUMENT —------------------------------

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