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Experiment – 8

1. Consider the following schema:

Student (sid, sname, age)

Match (mid, mname, venue)

Play (sid, mid, day(date))

```
create database exp8;
use exp8;
CREATE TABLE Student ( sid INT PRIMARY KEY, sname VARCHAR(100), age INT );
CREATE TABLE `Match` (
  mid VARCHAR(10) PRIMARY KEY,
  mname VARCHAR(100),
  venue VARCHAR(100)
);
CREATE TABLE Play (
  sid INT,
  mid VARCHAR(10),
  day DATE,
  FOREIGN KEY (sid) REFERENCES Student(sid),
  FOREIGN KEY (mid) REFERENCES `Match`(mid),
  PRIMARY KEY (sid, mid, day)
);
```

```
mysql> CREATE TABLE Student (    sid INT PRIMARY KEY,    sname VARCHAR(100),    age INT);
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> CREATE TABLE `Match` (
    ->     mid VARCHAR(10) PRIMARY KEY,
    ->     mname VARCHAR(100),
    ->     venue VARCHAR(100)
    -> );
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> CREATE TABLE Play (
    ->     sid INT,
    ->     mid VARCHAR(10),
    ->     day DATE,
    ->     FOREIGN KEY (sid) REFERENCES Student(sid),
    ->     FOREIGN KEY (mid) REFERENCES `Match`(mid),
    ->     PRIMARY KEY (sid, mid, day)
    -> );
Query OK, 0 rows affected (0.14 sec)
```

2. Populate all the tables.

insert into student (sid, sname, age) values

(1, 'Amit', 20),

(2, 'Vikram', 22),

(3, 'Neha', 21),

(4, 'Ravi', 23),

(5, 'Priya', 19),

(6, 'Anil', 20),

(7, 'Sunita', 22),

(8, 'Rajesh', 24),

(9, 'Kiran', 23),

(10, 'Meena', 21);

insert into `match` (mid, mname, venue) values

('B01', 'Football Match', 'Delhi'),

('B02', 'Cricket Match', 'Mumbai'),

('B03', 'Basketball Match', 'Kolkata'),

('B04', 'Tennis Match', 'Bangalore'),

('B05', 'Hockey Match', 'Chennai'),

('B06', 'Baseball Match', 'Pune'),

('B07', 'Football Match', 'Mumbai'),

('B08', 'Cricket Match', 'Delhi'),

('B09', 'Basketball Match', 'Goa'),

('B10', 'Tennis Match', 'Hyderabad'),

('B11', 'Hockey Match', 'Chandigarh'),

('B12', 'Baseball Match', 'Lucknow'),

('B13', 'Football Match', 'Chennai'),

('B14', 'Cricket Match', 'Bangalore'),

('B15', 'Basketball Match', 'Kolkata');

insert into play (sid, mid, day) values

(1, 'B01', '2024-10-01'),

(2, 'B02', '2024-10-01'),

(3, 'B03', '2024-10-02'),

(4, 'B04', '2024-10-03'),

(5, 'B05', '2024-10-04'),

(6, 'B06', '2024-10-05'),

(7, 'B07', '2024-10-06'),

(8, 'B08', '2024-10-07'),

(9, 'B09', '2024-10-08'),

(10, 'B10', '2024-10-09'),

(1, 'B11', '2024-10-10'),

(2, 'B12', '2024-10-11'),

(3, 'B13', '2024-10-12'),

(4, 'B14', '2024-10-13'),

(5, 'B15', '2024-10-14'),

(1, 'B03', '2024-10-02'),

(2, 'B05', '2024-10-04'),

(3, 'B07', '2024-10-06'),

(4, 'B09', '2024-10-08'),

(5, 'B11', '2024-10-10'),

(6, 'B13', '2024-10-12'),

(7, 'B15', '2024-10-14'),

(8, 'B01', '2024-10-01'),

(9, 'B02', '2024-10-01'),

(10, 'B04', '2024-10-03');

```
mysql> select
    -> * from student;
+-----+--------+------+
| sid | sname  | age  |
+-----+--------+------+
|   1 | Amit   |   20 |
|   2 | Vikram |   22 |
|   3 | Neha   |   21 |
|   4 | Ravi   |   23 |
|   5 | Priya  |   19 |
|   6 | Anil   |   20 |
|   7 | Sunita |   22 |
|   8 | Rajesh |   24 |
|   9 | Kiran  |   23 |
|  10 | Meena  |   21 |
+-----+--------+------+
10 rows in set (0.00 sec)
```

```
mysql> select * from play;
+-----+-----+------------+
| sid | mid | day        |
+-----+-----+------------+
|   1 | B01 | 2024-10-01 |
|   8 | B01 | 2024-10-01 |
|   2 | B02 | 2024-10-01 |
|   9 | B02 | 2024-10-01 |
|   1 | B03 | 2024-10-02 |
|   3 | B03 | 2024-10-02 |
|   4 | B04 | 2024-10-03 |
|  10 | B04 | 2024-10-03 |
|   2 | B05 | 2024-10-04 |
|   5 | B05 | 2024-10-04 |
|   6 | B06 | 2024-10-05 |
|   3 | B07 | 2024-10-06 |
|   7 | B07 | 2024-10-06 |
|   8 | B08 | 2024-10-07 |
|   4 | B09 | 2024-10-08 |
|   9 | B09 | 2024-10-08 |
|  10 | B10 | 2024-10-09 |
|   1 | B11 | 2024-10-10 |
|   5 | B11 | 2024-10-10 |
|   2 | B12 | 2024-10-11 |
|   3 | B13 | 2024-10-12 |
|   6 | B13 | 2024-10-12 |
|   4 | B14 | 2024-10-13 |
|   5 | B15 | 2024-10-14 |
|   7 | B15 | 2024-10-14 |
+-----+-----+------------+
25 rows in set (0.00 sec)
```

```
mysql> select * from `match`;
+-----+------------------+------------+
| mid | mname            | venue      |
+-----+------------------+------------+
| B01 | Football Match   | Delhi      |
| B02 | Cricket Match    | Mumbai     |
| B03 | Basketball Match | Kolkata    |
| B04 | Tennis Match     | Bangalore  |
| B05 | Hockey Match     | Chennai    |
| B06 | Baseball Match   | Pune       |
| B07 | Football Match   | Mumbai     |
| B08 | Cricket Match    | Delhi      |
| B09 | Basketball Match | Goa        |
| B10 | Tennis Match     | Hyderabad  |
| B11 | Hockey Match     | Chandigarh |
| B12 | Baseball Match   | Lucknow    |
| B13 | Football Match   | Chennai    |
| B14 | Cricket Match    | Bangalore  |
| B15 | Basketball Match | Kolkata    |
+-----+------------------+------------+
15 rows in set (0.00 sec)
```

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

```
select student.* from student join play on student.sid = play.sid where play.mid = 'B10';
```

```
+-----+-------+------+
| sid | sname | age  |
+-----+-------+------+
|  10 | Meena |   21 |
+-----+-------+------+
1 row in set (0.01 sec)
```

4. Find the name of matches played by Amit.

```
select `match`.mname from `match` join play on `match`.mid = play.mid join student
    on play.sid = student.sid where student.sname = 'amit';
```

```
+-------------------+
| mname             |
+-------------------+
| Football Match    |
| Basketball Match  |
| Hockey Match      |
+-------------------+
3 rows in set (0.00 sec)
```

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

```
select distinct student.sname from student join play on student.sid = play.sid join `match`
    on play.mid = `match`.mid where `match`.venue = 'delhi';
```

```
+---------+
| sname   |
+---------+
| Amit    |
| Rajesh  |
+---------+
2 rows in set (0.01 sec)
```

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

```
select distinct student.sname from student join play on student.sid = play.sid;
```

```
+--------+
| sname  |
+--------+
| Amit   |
| Vikram |
| Neha   |
| Ravi   |
| Priya  |
| Anil   |
| Sunita |
| Rajesh |
| Kiran  |
| Meena  |
+--------+
10 rows in set (0.00 sec)
```

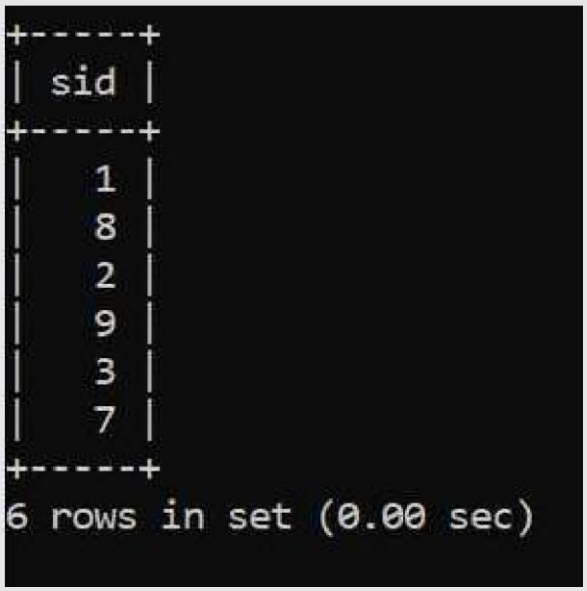
7. Find the ids and names of students who have played two different matches on the same day.

```
select student.sid, student.sname from student join play on student.sid = play.sid group
    by student.sid, student.sname, play.day having count(distinct play.mid) >= 2;
```

```
Empty set (0.01 sec)
```

8. Find the id's of students who have played a match in Delhi or Mumbai.

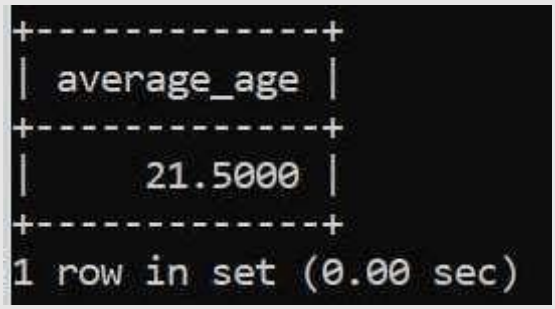
```
select distinct student.sid from student join play on student.sid = play.sid join `match` on
    play.mid = `match`.mid where `match`.venue in ('delhi', 'mumbai');
```



```
+-----+
| sid |
+-----+
|   1 |
|   8 |
|   2 |
|   9 |
|   3 |
|   7 |
+-----+
6 rows in set (0.00 sec)
```

9. Find the average age of students.

select avg(age) as average_age from student;



```
+-------------+
| average_age |
+-------------+
|     21.5000 |
+-------------+
1 row in set (0.00 sec)
```