COMPLETE SQL PRACTICAL SOLUTION

EMPLOYEE – PROJECT – WORKS_ON DATABASE

Entering MySQL

```
sudo mysql -u root -p
```

Create Database

```
CREATE DATABASE CompanyDB;
USE CompanyDB;
```

Create Tables

```
CREATE TABLE EMPLOYEE(
    EID CHAR(6) PRIMARY KEY,
    EName VARCHAR(20),
    Dept VARCHAR(10),
    DOB DATE
);

CREATE TABLE PROJECT(
    ProjID CHAR(6) PRIMARY KEY,
    PName VARCHAR(20),
    MentorName VARCHAR(15),
    MaxEmp INT
);

CREATE TABLE WORKS_ON(
    EID CHAR(6),
    PID CHAR(6),
    DateOfEntry DATE,
```

```
    FOREIGN KEY(EID) REFERENCES EMPLOYEE(EID),
    FOREIGN KEY(PID) REFERENCES PROJECT(ProjID)
);
```

Insert Sample Data

```
INSERT INTO EMPLOYEE VALUES
('E10101','Rohan','HR','2000-01-12'),
('E20109','Meera','Sales','1998-03-04'),
('E30191','Amit','IT','1999-12-11'),
('E40111','Riya','IT','2001-06-10'),
('E50119','Yash','HR','1997-09-05');

INSERT INTO PROJECT VALUES
('P1001','Alpha','Dr.Roy',5),
('P1002','Beta','Dr.Sena',8),
('P1003','Gamma','Dr.Vin',4);

INSERT INTO WORKS_ON VALUES
('E10101','P1001','2023-01-05'),
('E20109','P1002','2023-02-10'),
('E30191','P1002','2023-02-18'),
('E40111','P1001','2023-03-21');
```

View All Tables

```
SELECT * FROM EMPLOYEE;
SELECT * FROM PROJECT;
SELECT * FROM WORKS_ON;
```

1. Employees whose EID starts with 'E' and ends with 1 or 9

```
SELECT EName
FROM EMPLOYEE
WHERE EID LIKE 'E%1'
   OR EID LIKE 'E%9';
```

Meaning: EE

2. Most popular Project (highest employees working)

```
SELECT P.PName
FROM PROJECT P
JOIN WORKS_ON W
ON P.ProjID = W.PID
GROUP BY P.ProjID
ORDER BY COUNT(W.EID) DESC
LIMIT 1;
```

3. Employees NOT working on any project

```
SELECT E.EName
FROM EMPLOYEE E
LEFT JOIN WORKS_ON W
ON E.EID = W.EID
WHERE W.PID IS NULL;
```

Simple Explanation: LEFT JOIN keeps all employees → NULL means no project assigned.

4. Increase MaxEmp of every project by 10%

```
UPDATE PROJECT
SET MaxEmp = MaxEmp + (MaxEmp * 0.10);
```

5. Update Project P1's mentor name to Mr. Verma

```
UPDATE PROJECT
SET MentorName = 'Mr. Verma'
WHERE ProjID = 'P1';
```

6. Find project names in which more than one employee works

```
SELECT P.PName
FROM PROJECT P
JOIN WORKS_ON W
ON P.ProjID = W.PID
```

```
GROUP BY P.ProjID
HAVING COUNT(W.EID) > 1;
```

7. Youngest employee working in project 'P9'

```
SELECT E.EName
FROM EMPLOYEE E
JOIN WORKS_ON W
ON E.EID = W.EID
WHERE W.PID = 'P9'
ORDER BY E.DOB DESC
LIMIT 1;
```

8. Project names where employees = 25% of MaxEmp

```
SELECT P.PName
FROM PROJECT P
JOIN WORKS_ON W
ON P.ProjID = W.PID
GROUP BY P.ProjID
HAVING COUNT(W.EID) = 0.25 * P.MaxEmp;
```

Exit MySQL

```
exit;
```