

# CS3700\_ASSIGNMENT-3

## CS22B049 \_GROUP GURRALA ABHISHEK

**Query1-** Calculate the Average Loan Amount per Branch (Only for Active Loans)

```
SELECT b.City, b.State, AVG(l.Amount) AS Avg_Loan_Amount
FROM Branch b
JOIN Account a ON b.IFSC = a.Branch_IFSC
JOIN Loan l ON a.Accno = l.Accno
WHERE l.Start_date <= CURDATE()
GROUP BY b.IFSC;
```

**Query2-** Find the Day with the Highest Number of Transactions and Its Total Value

```
SELECT Date, COUNT(TID) AS Transaction_Count, SUM(Amount) AS
Total_Amount
FROM Transaction
GROUP BY Date
ORDER BY Transaction_Count DESC, Total_Amount DESC
LIMIT 1;
```

**Query3-** Determine the Top 5 Customers Who Have Made the Most Transactions (Involving Any Accounts)

```
SELECT c.Name, COUNT(t.TID) AS Transaction_Count
FROM Customer c
JOIN Account a ON c.CID = a.CID
JOIN Transaction t ON (a.Accno = t.from_acc OR a.Accno = t.to_acc)
GROUP BY c.CID
ORDER BY Transaction_Count DESC
LIMIT 5;
```

**Query4-** Find Employees Who Have No Subordinates (Even Indirectly)

```
SELECT e.Name
FROM Employee e
LEFT JOIN Supervise s ON e.EmpID = s.Supervisor
LEFT JOIN Supervise s2 ON s.Subordinate = s2.Supervisor
WHERE s.Supervisor IS NULL AND s2.Supervisor IS NULL;
```

**Query5-** Find the Branch with the Highest Total Loan Amount Granted in the Last Year

```
SELECT b.City, b.State, SUM(l.Amount) AS Total_Loan_Amount
FROM Branch b
JOIN Account a ON b.IFSC = a.Branch_IFSC
JOIN Loan l ON a.Accno = l.Accno
WHERE l.Start_date >= DATE_SUB(CURDATE(), INTERVAL 1 YEAR)
GROUP BY b.IFSC
ORDER BY Total_Loan_Amount DESC
LIMIT 1;
```

**Query6-** Find the Employee with the Most Supervised Employees (Including Indirect Supervision)

```
WITH RECURSIVE Supervision_Hierarchy AS (
    SELECT Supervisor, Subordinate
    FROM Supervise
    UNION ALL
    SELECT s.Supervisor, sh.Subordinate
    FROM Supervise s
    JOIN Supervision_Hierarchy sh ON s.Subordinate = sh.Supervisor
)
SELECT e.Name, COUNT(DISTINCT sh.Subordinate) AS Total_Subordinates
FROM Employee e
JOIN Supervision_Hierarchy sh ON e.EmpID = sh.Supervisor
GROUP BY e.EmpID
ORDER BY Total_Subordinates DESC
LIMIT 1;
```