**Experiment No. 3B**

**computer@computer-ThinkCentre**:**~**$ sudo mysql -u root -p

[sudo] password for computer:

Enter password:

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 8

Server version: 8.0.41-0ubuntu0.20.04.1 (Ubuntu)

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owners.

Type &apos;help;&apos; or &apos;\h&apos; for help. Type &apos;\c&apos; to clear the current input statement.

mysql> show databases;

+--------------------+

| Database |

+--------------------+

| aditya |

| bus |

| electionResult |

| hello |

| information\_schema |

| my\_db |

| mysql |

| parth |

| parthx03 |

| parthxo |

| parthxo1 |

| parthxo2 |

| parthxo5 |

| parthxo6 |

| performance\_schema |

| sys |

| vaibhav1 |

| yash |

+--------------------+

18 rows in set (0.00 sec)

mysql> use electionResult

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

mysql> show tables;

+--------------------------+

| Tables\_in\_electionResult |

+--------------------------+

| CandidateID |

| ElectionDate |

| FACTS |

| LocationID |

| VoterID |

+--------------------------+

5 rows in set (0.01 sec)

**1.ROLL-UP** (Summarize data from detailed to higher level)

mysql> SELECT ed.Month, SUM(f.VotesReceived) AS TotalVotes

-> FROM FACTS f

-> JOIN ElectionDate ed ON f.ElectionDate = ed.Date

-> GROUP BY ed.Month;

+--------+------------+

| Month | TotalVotes |

+--------+------------+

| April | 1250 |

| May | 1480 |

| June | 1125 |

| July | 1750 |

| August | 1390 |

+--------+------------+

5 rows in set (0.00 sec)

**2.DRILL-DOWN** (Go from summarized to more detailed data)

mysql> SELECT ed.Month, ed.Date, SUM(f.VotesReceived) AS TotalVotes

-> FROM FACTS f

-> JOIN ElectionDate ed ON f.ElectionDate = ed.Date

-> GROUP BY ed.Month, ed.Date

-> ORDER BY ed.Date;

+--------+------------+------------+

| Month | Date | TotalVotes |

+--------+------------+------------+

| April | 2025-04-10 | 1250 |

| May | 2025-05-15 | 1480 |

| June | 2025-06-20 | 1125 |

| July | 2025-07-25 | 1750 |

| August | 2025-08-30 | 1390 |

+--------+------------+------------+

5 rows in set (0.00 sec)

**3.SLICE** (Filter data on one dimension)

mysql> SELECT c.CandidateName, f.VotesReceived

-> FROM FACTS f

-> JOIN CandidateID c ON f.CandidateID = c.CandidateID

-> JOIN ElectionDate ed ON f.ElectionDate = ed.Date

-> WHERE ed.Month = &apos;May&apos;;

+---------------+---------------+

| CandidateName | VotesReceived |

+---------------+---------------+

| Anjali Mehta | 1480 |

+---------------+---------------+

1 row in set (0.01 sec)

**4.DICE** (Apply filter on multiple dimensions)

mysql> SELECT c.CandidateName, l.State, l.UrbanRural, f.VotesReceived

-> FROM FACTS f

-> JOIN CandidateID c ON f.CandidateID = c.CandidateID

-> JOIN LocationID l ON f.LocationID = l.LocationID

-> WHERE c.Gender = &apos;Female&apos; AND l.UrbanRural = &apos;Urban&apos;;

+---------------+-----------+------------+---------------+

| CandidateName | State | UrbanRural | VotesReceived |

+---------------+-----------+------------+---------------+

| Anjali Mehta | Karnataka | Urban | 1480 |

+---------------+-----------+------------+---------------+

1 row in set (0.01 sec)

**5.PIVOT** (Not directly supported in MySQL but we can simulate it)

mysql> SELECT

-> c.CandidateName,

-> SUM(CASE WHEN ed.Month = &apos;April&apos; THEN f.VotesReceived ELSE 0 END) AS April,

-> SUM(CASE WHEN ed.Month = &apos;May&apos; THEN f.VotesReceived ELSE 0 END) AS May,

-> SUM(CASE WHEN ed.Month = &apos;June&apos; THEN f.VotesReceived ELSE 0 END) AS June,

-> SUM(CASE WHEN ed.Month = &apos;July&apos; THEN f.VotesReceived ELSE 0 END) AS July,

-> SUM(CASE WHEN ed.Month = &apos;August&apos; THEN f.VotesReceived ELSE 0 END) AS August

-> FROM FACTS f

-> JOIN CandidateID c ON f.CandidateID = c.CandidateID

-> JOIN ElectionDate ed ON f.ElectionDate = ed.Date

-> GROUP BY c.CandidateName;

+---------------+-------+------+------+------+--------+

| CandidateName | April | May | June | July | August |

+---------------+-------+------+------+------+--------+

| Rahul Sharma | 1250 | 0 | 0 | 0 | 0 |

| Anjali Mehta | 0 | 1480 | 0 | 0 | 0 |

| Sanjay Verma | 0 | 0 | 1125 | 0 | 0 |

| Priya Desai | 0 | 0 | 0 | 1750 | 0 |

| Aman Khan | 0 | 0 | 0 | 0 | 1390 |

+---------------+-------+------+------+------+--------+

5 rows in set (0.00 sec)

mysql>