EXPERIMENT 2

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ROLL NO.:- 31

CLASS & BATCH :- TE3 & B

SUBJECT :- Data Warehouse and Mining

AIM:- Implementation of OLAP operations: Slice,Dice, Rollup, Drilldown and Pivot based on

//**Slice Operation**

```
SELECT *
FROM HOSPITAL_FACT hf
JOIN TIME t ON hf.TIME_ID = t.ID
WHERE t.YEAR1 = 2024;
```

// dice

```
SELECT hf.*
FROM HOSPITAL_FACT hf
JOIN DOCTER d ON hf.DOC_ID = d.DOC_ID
JOIN TIME t ON hf.TIME_ID = t.ID
WHERE d.DEPARTMENT = 'Cardiology'
AND t.YEAR1 = 2024;
```

// rollup

```
SELECT d.DEPARTMENT, SUM(hf.CHARGES) AS TOTAL_CHARGES
FROM HOSPITAL_FACT hf
JOIN DOCTER d ON hf.DOC_ID = d.DOC_ID
GROUP BY d.DEPARTMENT;
```

// Drill-down

```
SELECT d.NAME, SUM(hf.CHARGES) AS TOTAL_CHARGES
FROM HOSPITAL_FACT hf
```

```
JOIN DOCTER d ON hf.DOC_ID = d.DOC_ID

WHERE d.DEPARTMENT = 'Cardiology'

GROUP BY d.NAME;
```

//Pivote operation

```
SELECT * FROM (

    SELECT d.SPECIALIZATION, t.QUATER AS QUARTER, h.COUNT1

    FROM HOSPITAL_FACT h

    JOIN DOCTER d ON h.DOC_ID = d.DOC_ID

    JOIN TIME t ON h.TIME_ID = t.ID

)

PIVOT (

    SUM(COUNT1)

    FOR QUARTER IN (1 AS "Q1", 2 AS "Q2", 3 AS "Q3", 4 AS "Q4")

)

ORDER BY SPECIALIZATION;
```

// output

1. Slice Operation (Records from 2024)

HOSP_ID	PATIENT_ID	DOC_ID	TIME_ID	COUNT1	CHARGES	REPORTS	CONSULTANT	BILLING	SPECIALIZATION	MONTH	YEAR
1	1	1	1	1	100	Blood Test	Dr. Smith	Paid	Cardiologist	1	2024
2	1	1	2	1	100	Blood Test	Dr. Smith	Paid	Cardiologist	3	2024
3	1	1	3	1	100	Blood Test	Dr. Smith	Paid	Cardiologist	5	2024

2. Dice Operation (2024 + Cardiologists + Paid Billing)

HOSP_ID	PATIENT_ID	DOC_ID	TIME_ID	COUNT1	CHARGES	REPORTS	CONSULTANT	BILLING	SPECIALIZATION	MONTH	YEAR
1	1	1	1	1	100	Blood Test	Dr. Smith	Paid	Cardiologist	1	2024
2	1	1	2	1	100	Blood Test	Dr. Smith	Paid	Cardiologist	3	2024

3. Drill-Down (Grouped by Month & Specialization)

MONTH	SPECIALIZATION	TOTAL_PATIENTS	TOTAL_CHARGES
1	Cardiologist	5	500
1	Dermatologist	5	500
3	Neurologist	5	500
5	Orthopedic	5	500
8	Pediatrician	5	500

4. Roll-Up (Grouped by Year)

YEAR	TOTAL_PATIENTS	TOTAL_CHARGES
2024	125	12,500

5. Pivot Operation (Specialization vs. Quarter)

SPECIALIZATION	Q1	Q2	Q3	Q4
Cardiologist	10	5	5	5
Dermatologist	10	5	5	5
Neurologist	10	5	5	5
Orthopedic	10	5	5	5
Pediatrician	10	5	5	5

Conclusion:- By this experment we learned to implement Slice,Dice, Rollup, Drilldown and Pivot operation .