Mahavir Education Trust's

SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE

Chembur, Mumbai - 400 088

UG Program in Cyber Security

Experiment Number: 3					
Date of Performance:					
Date of Submission:					
Program Execution/ formation/ correction/ ethical practices (07)	**Documentation (02)**	**Timely Submission (03)**	**Viva Answer to sample questions (03)**	**Experiment Total (15)**	**Sign**

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Experiment 3

Aim: Implementation of OLAP operations: Slice, Dice, Rollup and Drilldown based on experiment 1 case study.

Lab outcomes: CSL 503.1: Design data warehouse and perform various OLAP operations.

Problem Statement: Implement the OLAP operation.

Theory:

OLAP stands for ***Online Analytical Processing*** Server. It is a software technology that allows users to analyze information from multiple database systems at the same time. It is based on a multidimensional data model and allows the user to query on multi-dimensional data.

Program Listing and Output:

Drill down: In drill-down operation, the less detailed data is converted into highly detailed data. It can be done by:

- Moving down in the concept hierarchy
- Adding a new dimension

```
select Buyer_name, Buyer_state, Buyer_city, sum(Reserved_price)
from Buyer_table inner join fact_table on
Buyer_table.Buyer_key = fact_table.Buyer_key
where Buyer_city in ("Mumbai") group by Buyer_city with rollup;
```

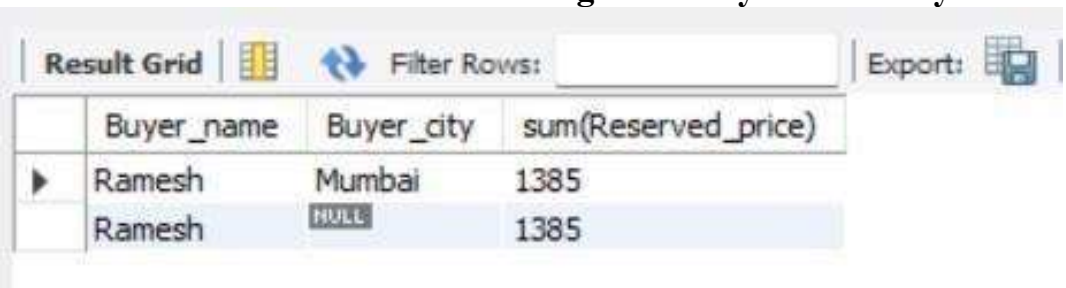
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Buyer_name	Buyer_state	Buyer_city	sum(Reserved_price)
Ramesh	Maharashtra	Mumbai	1385
Ramesh	Maharashtra	NULL	1385

Roll up: It is just opposite of the drill-down operation. It performs aggregation on the OLAP cube. It can be done by:

- Climbing up in the concept hierarchy
- Reducing the dimensions

```
select Buyer_name, Buyer_city, sum(Reserved_price)
from Buyer_table inner join fact_table on
Buyer_table.Buyer_key = fact_table.Buyer_key group by
Buyer_city with rollup;
```



Result Grid | Filter Rows: | Export:

Buyer_name	Buyer_city	sum(Reserved_price)
Ramesh	Mumbai	1385
Ramesh	NULL	1385

Dice: It selects a sub-cube from the OLAP cube by selecting two or more dimensions.

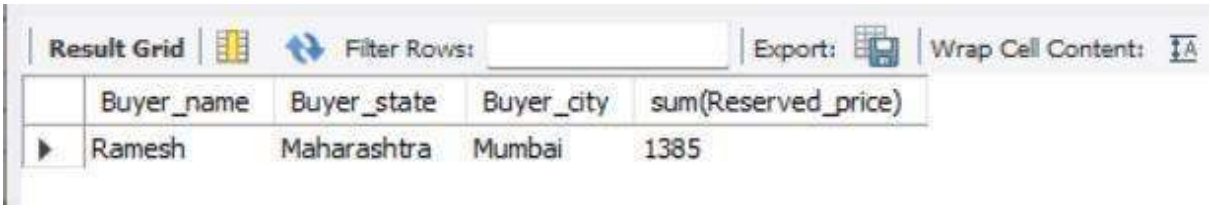
```
select Buyer_name, Buyer_state, Buyer_city, sum(Reserved_price)
from Buyer_table inner join fact_table on
Buyer_table.Buyer_key = fact_table.Buyer_key
where Buyer_city="Mumbai" and Buyer_state=" " group by Buyer_city;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Buyer_name	Buyer_state	Buyer_city	sum(Reserved_price)

Slice: It selects a single dimension from the OLAP cube which results in a new sub-cube creation

```
select Buyer_name, Buyer_state, Buyer_city, sum(Reserved_price)
from Buyer_table inner join fact_table on
Buyer_table.Buyer_key = fact_table.Buyer_key where
Buyer_city in ("Mumbai") group by Buyer_city;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Buyer_name	Buyer_state	Buyer_city	sum(Reserved_price)
Ramesh	Maharashtra	Mumbai	1385

Conclusion: Here we Implemented OLAP operations.
Question :