Experiment 5 Output

OLAP operations such as **slicing**, **dicing**, **drill-down**, **drill-up**, **and pivoting** were applied to analyze predefined data in a data warehouse.

Creating Database and Using in MySQL

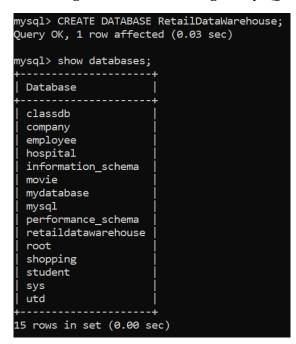


Fig 1: Database in MySQL

OlAP operations



Fig 3: Slicing and Dicing of Data

Creating Tables

```
mysql> CREATE TABLE Sales (
           Product VARCHAR(50),
           Region VARCHAR(50),
    ->
    ->
           Year INT,
           Sales_Amount DECIMAL(10,2)
    ->
    -> );
Query OK, 0 rows affected (0.06 sec)
mysql>
mysql> INSERT INTO Sales VALUES
                   'North', 2022, 50000),
    -> ('Laptop',
    -> ('Laptop', 'South', 2022, 45000),
                 'North', 2022, 30000),
    -> ('Phone',
    -> ('Phone',
                 'South', 2022, 32000),
'North', 2023, 52000),
      ('Laptop',
    -> ('Laptop',
                  'South', 2023, 47000),
                 'North', 2023, 31000),
    -> ('Phone',
    -> ('Phone', 'South', 2023, 33000);
Query OK, 8 rows affected (0.01 sec)
Records: 8 Duplicates: 0 Warnings: 0
```

Fig 2: Creating Tables and Inserting Data

Drill OLAP Operations

```
mysql> SELECT Year, Product, SUM(Sales_Amount)
    -> FROM Sales
    -> GROUP BY Year, Product;
 Year | Product | Total_Sales |
 2022
        Laptop
 2022
        Phone
                      62000.00
 2023
         Laptop
                      99000.00
 2023
       Phone
                      64000.00
 rows in set (0.00 sec)
mysql> SELECT Product,
-> SUM(CASE WHEN Year = 2022 THEN S
              SUM(CASE WHEN Year = 2023 THEN S
   -> FROM Sales
    -> GROUP BY Product;
 Product | Sales_2022 | Sales_2023 |
              95000.00
                            99000.00
 Laptop
              62000.00
                            64000.00
 Phone
 rows in set (0.00 sec)
```

Fig 4: Drill up, down and pivoting