EXPERIMENT NO: 4

TITLE: Implement Views with all possible operations on it.

LEARNING OBJECTIVES:

1. To study the fundamental concepts of database management.
2. To learn the basic issues of transaction processing and concurrency control.

THEORY: Views: Views in SQL are kind of virtual tables. A view also has rows and columns as they are in a real table in the database. We can create a view by selecting fields from one or more tables present in the database. A view can either have all the rows of a table or specific rows based on criterion condition. A view is nothing more than a SQL statement that is stored in the database with an associated name. A view is actually a composition of a table in the form of a predefined SQL query.

Operations on Views:

Sample Table: Student Details

S_ID	NAME	ADDRESS
1	Harsh	Kolkata
2	Ashish	Durgapur
3	Pratik	Delhi
4	Dhanraj	Bihar
5	Ram	Rajasthan

Student Marks

ID	NAME	MARKS	AGE
1	Harsh	90	19
2	Suresh	50	20
3	Pratik	80	19
4	Dhanraj	95	21
5	Ram	85	18

Creating Views:

We can create View using CREATE VIEW statement. A View can be created from a single table or multiple tables.

Syntax:

CREATE VIEW view_name AS

SELECT column1, column2.....

FROM table_name

WHERE condition;

view_name: Name for the View

table_name: Name of the table

condition: Condition to select rows

Examples:

Example 1.

Creating View from a single table:

In this example we will create a View named DetailsView from the table StudentDetails.

Query:

CREATE VIEW DetailsView AS

SELECT NAME, ADDRESS

FROM StudentDetails

WHERE S_ID < 5;

To see the data in the View, we can query the view in the same manner as we query a table.

SELECT * FROM DetailsView;

Output:

NAME	ADDRESS
Harsh	Kolkata
Ashish	Durgapur
Pratik	Delhi
Dhanraj	Bihar

Example 2.

In this example, we will create a view named StudentNames from the table StudentDetails.

Query:

```
CREATE VIEW StudentNames AS
SELECT S_ID, NAME
FROM StudentDetails
ORDER BY NAME;
```

If we now query the view as,

```
SELECT * FROM StudentNames;
```

Output:

S_ID	NAMES
2	Ashish
4	Dhanraj
1	Harsh
3	Pratik
5	Ram

NOTE : Please ensure that you also add the Industrial Problem (2) in your submission/document along with the existing content.

References for Theory:

- Silberschatz A., Korth H., Sudarshan S., "Database System Concepts", MGH
- Connally T, Begg C., "Database Systems", Pearson Education

- Raghurama Krishan, "Database Management Systems", McGrawHill
- S.K.Singh, "Database Systems : Concepts, Design and Application", Pearson

CONCLUSION: