| Ex.No.5 | VIEWS AND INDEX |
|---|---|

## AIM

To implement Views and Indexing in DBMS for efficient data retrieval.

## CREATING A TABLES

```
SQL> CREATE TABLE DEPARTMENT (
  2     dept_id INT PRIMARY KEY,
  3     dept_name VARCHAR(50),
  4     location VARCHAR(50)
  5  );
```

Table created.

```
SQL> CREATE TABLE EMPLOYEE (
  2     emp_id INT PRIMARY KEY,
  3     emp_name VARCHAR(50),
  4     age INT,
  5     salary DECIMAL(10,2),
  6     dept_id INT,
  7     FOREIGN KEY (dept_id) REFERENCES DEPARTMENT(dept_id)
  8  );
```

Table created.

## INSERTING VALUES INTO TABLE

```
SQL> INSERT INTO DEPARTMENT VALUES (1, 'HR', 'New York');
```

1 row created.

```
SQL> INSERT INTO DEPARTMENT VALUES (2, 'IT', 'San Francisco');
```

1 row created.

```
SQL> INSERT INTO DEPARTMENT VALUES (3, 'Finance', 'Chicago');
```

1 row created.

```
SQL> INSERT INTO EMPLOYEE VALUES (101, 'Alice', 25, 60000, 1);
```

1 row created.

```
SQL> INSERT INTO EMPLOYEE VALUES (102, 'Bob', 28, 75000, 2);
```

1 row created.

SQL> INSERT INTO EMPLOYEE VALUES (103, 'Charlie', 30, 80000, 3);

1 row created.

SQL> INSERT INTO DEPARTMENT VALUES (4, 'Marketing', 'Los Angeles');

1 row created.

SQL> INSERT INTO DEPARTMENT VALUES (5, 'Operations', 'Houston');

1 row created.

SQL> INSERT INTO EMPLOYEE VALUES (104, 'David', 27, 70000, 4);

1 row created.

SQL> INSERT INTO EMPLOYEE VALUES (105, 'Eve', 29, 85000, 5);

1 row created.

## CREATING A VIEW

```
SQL> CREATE VIEW IT_EMPLOYEES AS
  2  SELECT emp_id, emp_name, age, salary
  3  FROM EMPLOYEE
  4  WHERE dept_id = 2;
```

View created.

```
SQL> CREATE VIEW EMPLOYEE_DETAILS AS
  2  SELECT E.emp_id, E.emp_name, E.age, E.salary, D.dept_name, D.location
  3  FROM EMPLOYEE E
  4  JOIN DEPARTMENT D ON E.dept_id = D.dept_id;
```

View created.

```
SQL> SELECT * FROM IT_EMPLOYEES;

EMP_ID      EMP_NAME      AGE   SALARY
----------  ----------  ---------- ----------
  102              Bob                28       75000
SQL> SELECT * FROM EMPLOYEE_DETAILS;

EMP_ID    EMP_NAME     AGE      SALARY  DEPT_   NAME    LOCATION
----------   ----------   ----------- ---------- ----------  ----------
```

| | | | | | |
|---|---|---|---|---|---|
| 101 | Alice | 26 | 60000 | HR | New York |
| 102 | Bob | 28 | 75000 | IT | San Francisco |
| 103 | Charlie | 30 | 80000 | Finance | Chicago |
| 104 | David | 27 | 70000 | Marketing | Los Angeles |
| 105 | Eve | 29 | 85000 | Operations | Houston |

**CREATING A INDEX**

CREATE INDEX idx_dept_id ON EMPLOYEE(dept_id);

Index created.

CREATE INDEX idx_dept_details ON DEPARTMENT(dept_name, location);

Index created.

## DROPPING A INDEX

DROP INDEX idx_dept_id ON EMPLOYEE;

Index dropped.

DROP INDEX idx_dept_details ON DEPARTMENT;

Index dropped;

| CONTENTS | MARKS ALLOTED | MARKS OBTAINED |
|---|---|---|
| Aim,Algorithm,SQL,PL/SQL | 30 | |
| Execution and Result | 20 | |
| Viva | 10 | |
| Total | 60 | |

## RESULT

Successfully created and dropped **Views** and **Indexes**, improving query performance. The views provided a structured way to retrieve specific data efficiently.Indexes enhanced the speed of data retrieval operations in the database.