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

**AIM**

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

**CREATING A TABLES**

SQL> CREATE TABLE STUDENT\_DETAILS (  
       student\_id INT PRIMARY KEY,  
       name VARCHAR(50),  
       age INT,  
       dept VARCHAR(50),  
       faculty\_id INT  );  
  
Table created.  
  
SQL> CREATE TABLE FACULTY\_DETAILS (  
       faculty\_id INT PRIMARY KEY,  
       faculty\_name VARCHAR(50),  
       dept VARCHAR(50)  
   );  
  
Table created.

**INSERTING VALUES INTO TABLE**

SQL> INSERT INTO FACULTY\_DETAILS VALUES     (101, 'Dr. Ravi', 'IT');  
  
1 row created.  
  
SQL> INSERT INTO FACULTY\_DETAILS VALUES(102, 'Dr. Priya', 'CSE');  
  
1 row created.  
  
SQL> INSERT INTO FACULTY\_DETAILS VALUES(103, 'Dr.Kavi ', 'ECE');  
  
1 row created.  
  
SQL> INSERT INTO FACULTY\_DETAILS VALUES (104, 'Dr. Anand', 'EEE');  
  
1 row created.  
  
SQL> INSERT INTO STUDENT\_DETAILS VALUES (1, 'Swati', 20, 'IT', 101);  
  
1 row created.  
  
SQL> INSERT INTO STUDENT\_DETAILS VALUES (2, 'Anu', 21, 'CSE', 102);  
  
1 row created.  
  
SQL> INSERT INTO STUDENT\_DETAILS VALUES  (3, 'Mythili', 22, 'ECE', 103);  
  
1 row created.  
  
SQL> ALTER TABLE STUDENT\_DETAILS ADD email VARCHAR(100);  
  
Table altered.  
  
SQL> ALTER TABLE FACULTY\_DETAILS ADD experience INT;  
  
Table altered.  
  
SQL> ALTER TABLE FACULTY\_DETAILS MODIFY faculty\_name VARCHAR(100);  
  
Table altered.

**CREATING A VIEW**

SQL> CREATE VIEW STUDENT\_VIEW AS  
   SELECT student\_id, name, age, dept, faculty\_id  
   FROM STUDENT\_DETAILS  
   WHERE dept = 'IT';  
  
View created.  
  
SQL> SELECT \* FROM STUDENT\_VIEW;  
  
STUDENT\_ID NAME         AGE DEPT              FACULTY\_ID  
----------------------------------------------------------------------------------------------------------------  
  1 Swati           20 IT                        101  
  
  
SQL> CREATE VIEW FACULTY\_STUDENT\_VIEW AS  
   SELECT S.student\_id, S.name, S.age, S.dept, F.faculty\_name  
   FROM STUDENT\_DETAILS S  
   JOIN FACULTY\_DETAILS F ON S.faculty\_id = F.faculty\_id;  
  
View created.  
  
SQL> SELECT \* FROM FACULTY\_STUDENT\_VIEW;

STUDENT\_ID NAME         AGE DEPT              FACULTY\_ NAME  
----------------------------------------------------------------------------------------------------------------  
  
   1 Swati          20 IT Dr. Ravi  
  
       2 Anu            21 CSE Dr. Priya  
  
      3 Mythili         22 ECE Dr. Kavi  
  
  
SQL> INSERT INTO FACULTY\_STUDENT\_VIEW VALUES (8, 'John', 24, 'MECH', 'Dr. Sandhiya');

INSERT INTO FACULTY\_STUDENT\_VIEW VALUES (8, 'John', 24, 'MECH', 'Dr. Sandhiya')  
\*  
ERROR at line 1:  
ORA-01776: cannot modify more than one base table through a join view  
  
  
SQL> DROP VIEW STUDENT\_VIEW;  
  
View dropped.  
  
SQL> DROP VIEW FACULTY\_STUDENT\_VIEW;  
  
View dropped.

**CREATING A INDEX**

SQL> create index idx\_faculty\_id on student\_details(faculty\_id);

Index created.

SQL> CREATE INDEX idx\_dept\_faculty ON STUDENT\_DETAILS (dept, faculty\_id);

Index created.

**DROPPING A INDEX**

SQL> drop index idx\_dept\_faculty;

Index dropped.

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**RESULT**

The successful creation of **Views** and **Indexes** has significantly improved query performance by optimizing data retrieval and reducing execution time.