

## Ex.No.8

### Set Operators and Views

#### Aim:

To perform manipulate records of table using Set operators and Views in SQL.

#### Set operators

- Set operators combine the results of two queries into a single.

Operator	Function
Union	Returns all distinct rows selected by either query
Union all	Returns all rows selected by either query including duplicates
Intersect	Returns only rows that are common to both the queries
Minus	Returns all distinct rows selected only by the first query and not by the second.

**Q1)** Create the following tables :

depositor(cus\_name,acno) & borrower(cus\_name,loanno)

SQL>

SQL>

**Q2)** List the names of distinct customers who have either loan or account

SQL>

**Q3)** List the names of customers (with duplicates) who have either loan or account

SQL> (select *cus\_name* from *borrower*)  
union all (select *cus\_name* from *depositor*)

**Q4)** List the names of customers who have both loan and account

SQL>

**Q5)** List the names of customers who have loan but not account

SQL>

## VIEWS

- An Imaginary table contains no data and the tables upon which a view is based are called base tables.
- Logically represents subsets of data from one or more tables

### **Advantages of view**

- To restrict database access
- To make complex queries easy
- To allow data independence
- To present different views of the same data

### **Syntax**

```
CREATE [OR REPLACE] VIEW view [col1 alias, col2 alias,...]  
AS subquery  
[ WITH CHECK OPTION [ CONSTRAINT constraint ] ]  
[ WITH READ ONLY ]
```

- You embed a subquery within the CREATE VIEW statement.
- The subquery can contain complex SELECT syntax.
- The subquery cannot contain an ORDER BY clause.

- Q1)** Create a view *empv10* that contains *empno*, *ename*, *job* of the employees who work in *dept* 10. Also describe the structure of the view.

```
SQL> create view empv10 as  
       select empno, ename, job from emp  
       where deptno=10;
```

```
SQL> desc empv10;
```

- Q2)** Create a view with column aliases *empv30* that contains *empno*, *ename*, *sal* of the employees who work in *dept* 30. Also display the contents of the view.

```
SQL >
```

```
SQL> select * from empv30;
```

### Rules for Performing DML Operations on a View

- You can perform DML operations on simple views.
  - You **cannot remove** a row/ **modify** data/ **add** data if the view contains the following
    - Group functions
    - A GROUP BY clause
    - The DISTINCT keyword
  - You cannot modify data in a view if it contains columns defined by expressions or it contains ROWNUM pseudo column
  - You cannot add data if any NOT NULL columns in the base tables that are not selected by the view
- Q3)** Update the view *empv10* by increasing 10% salary of the employees who work as 'CLERK'. Also confirm the modifications in *emp* table.
- SQL > update empv10 set sal = sal+0.10\*sal  
where job='CLERK';**
- SQL > select empno,ename,job,sal from emp;**
- Q4)** Modify the view *empv10* which contains the data *empno, ename, job, sal*. Add an alias for each column name.
- SQL > create or replace view empv10  
(employee\_no, employee\_name, job, salary) as  
select empno, ename, job,sal from emp where deptno=10;**
- Q5)** Using *emp* table, create a view *pay* which contains *ename, monthly\_sal, annual\_sal, deptno*.
- SQL>**
- Q6)** Create a view *dept\_stat* which contains *department no., department name, minimum salary, maximum salary, total salary*.
- SQL>**

### With check option

- You can ensure that DML on the view stays within the domain of the view by using the WITH CHECK OPTION.

**Q7)** Execute the following query and then try to delete the row with dept no 20. Now write in words that you understand

```
SQL> create or replace view empv20  
as select * from emp where deptno = 20  
with check option constraint empv20_ck;
```

### Denying DML Operations

- You can ensure that no DML operations occur by adding the WITH READ ONLY option to your view definition.

**Q8)** Create a view *empv10* with all the details of employees who work in dept no. 10. Also ensure that no DML operations can be done with the view.

```
SQL> create or replace view empv10  
as select * from emp where deptno = 20  
with read only;
```

### Deleting Views

#### Syntax

```
DROP VIEW view_name;
```

**Q9)** Delete the view *empv20*.

```
SQL>
```