EX: NO: 8 Program on views

1) Create a table for customer (ID, NAME, AGE, ADDRESS, BALANCE) and insert records
2) Create a view, it would be used to have customer name and age from CUSTOMERS table
3) Update the age of Ramesh using CUSTOMER_VIEW
4) Delete a record having AGE= 22 using CUSTOMER_VIEW
5) Drop CUSTOMER_VIEW from CUSTOMER table

Description:

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.

A view can contain all rows of a table or select rows from a table. A view can be created from one or many tables which depends on the written SQL query to create a view.

Views, which are kind of virtual tables, allow users to do the following:

- Structure data in a way that users or classes of users find natural or intuitive.
- Restrict access to the data such that a user can see and (sometimes) modify exactly what they need and no more.
- Summarize data from various tables which can be used to generate reports.

Creating Views:

Database views are created using the **CREATE VIEW** statement. Views can be created from a single table, multiple tables, or another view.

To create a view, a user must have the appropriate system privilege according to the specific implementation. The basic CREATE VIEW syntax is as follows:

```
CREATE VIEW view_name AS
SELECT column1, column2.....
FROM table_name
WHERE [condition];
```

You can include multiple tables in your SELECT statement in very similar way as you use them in normal SQL SELECT query.

Updating a View: A view can be updated under certain conditions:

- The SELECT clause may not contain the keyword DISTINCT.
- The SELECT clause may not contain summary functions.
- The SELECT clause may not contain set functions.
- The SELECT clause may not contain set operators.
- The SELECT clause may not contain an ORDER BY clause.
- The FROM clause may not contain multiple tables.
- The WHERE clause may not contain subqueries.

- The query may not contain GROUP BY or HAVING.
- Calculated columns may not be updated.

Deleting Rows into a View:

Rows of data can be deleted from a view. The same rules that apply to the UPDATE and INSERT commands apply to the DELETE command.

Dropping Views:

Obviously, where you have a view, you need a way to drop the view if it is no longer needed. The syntax is very simple as given below:

```
DROP VIEW view_name;
```

Sol :

1) Create table for Costumer and insert records

Consider the CUSTOMERS table having the following records:

```
+----+----------+-----+-----------+----------+
| ID | NAME     | AGE | ADDRESS   | BALANCE  |
+----+----------+-----+-----------+----------+
|  1 | Ramesh   |  32 | Ahmedabad |  2000.00 |
|  2 | Khilan   |  25 | Delhi     |  1500.00 |
|  3 | kaushik  |  23 | Kota      |  2000.00 |
|  4 | Chaitali |  25 | Mumbai    |  6500.00 |
|  5 | Hardik   |  27 | Bhopal    |  8500.00 |
|  6 | Komal    |  22 | MP        |  4500.00 |
|  7 | Muffy    |  24 | Indore    | 10000.00 |
+----+----------+-----+-----------+----------+
```

2) This view would be used to have customer name and age from CUSTOMERS table

```
SQL > CREATE VIEW CUSTOMER_VIEW AS
      SELECT name, age
      FROM  CUSTOMER;
```

Now, you can query CUSTOMER_VIEW in similar way as you query an actual table.

```
SQL > SELECT * FROM CUSTOMERS_VIEW;
+----------+-----+
| name     | age |
+----------+-----+
| Ramesh   |  32 |
| Khilan   |  25 |
| kaushik  |  23 |
| Chaitali |  25 |
| Hardik   |  27 |
| Komal    |  22 |
| Muffy    |  24 |
+----------+-----+
```

3)Update the age of Ramesh using CUSTOMERS_VIEW

```
SQL > UPDATE CUSTOMER_VIEW
      SET AGE = 35
      WHERE name='Ramesh';
```

```
+----+----------+-----+-----------+----------+
| ID | NAME     | AGE | ADDRESS   | SALARY   |
+----+----------+-----+-----------+----------+
|  1 | Ramesh   |  35 | Ahmedabad |  2000.00 |
|  2 | Khilan   |  25 | Delhi     |  1500.00 |
|  3 | kaushik  |  23 | Kota      |  2000.00 |
|  4 | Chaitali |  25 | Mumbai    |  6500.00 |
|  5 | Hardik   |  27 | Bhopal    |  8500.00 |
|  6 | Komal    |  22 | MP        |  4500.00 |
|  7 | Muffy    |  24 | Indore    | 10000.00 |
+----+----------+-----+-----------+----------+
```

4)Delete a record having AGE= 22 using CUSTOMERS_VIEW

```
SQL > DELETE FROM CUSTOMER_VIEW WHERE age = 22;
```

This would ultimately delete a row from the base table CUSTOMERS and same would reflect in the view itself. Now, try to query base table, and SELECT statement would produce the following result:

```
+----+----------+-----+-----------+----------+
| ID | NAME     | AGE | ADDRESS   | SALARY   |
+----+----------+-----+-----------+----------+
|  1 | Ramesh   |  35 | Ahmedabad |  2000.00 |
|  2 | Khilan   |  25 | Delhi     |  1500.00 |
|  3 | kaushik  |  23 | Kota      |  2000.00 |
|  4 | Chaitali |  25 | Mumbai    |  6500.00 |
|  5 | Hardik   |  27 | Bhopal    |  8500.00 |
|  7 | Muffy    |  24 | Indore    | 10000.00 |
+----+----------+-----+-----------+----------+
```

6)Drop CUSTOMERS_VIEW from CUSTOMERS table:

```
SQL> DROP VIEW CUSTOMER_VIEW;
```