EXPERIMENT – 10

DATABASE MANAGEMENT SYSTEMS LAB

Aim

Write the SQL queries to create the views.

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Aim:

Write the SQL queries to create the views.

Tools Used:

MariaDB

Procedure/ Queries:

A VIEW is a virtual table, through which a selective portion off the data from one or more tables can be seen will stop views do not contain data of their own will stop they are used to restrict access to the database or to hide data complexity. A view is stored as a SELECT statement in the database.DML operations on a view like INSERT, UPDATE, DELETE affects the data in the original table upon which the view is based.

Syntax:

1.

CREATE VIEW view_name AS

SELECT column1,column2 ,..

FROM table_name

Where condition;

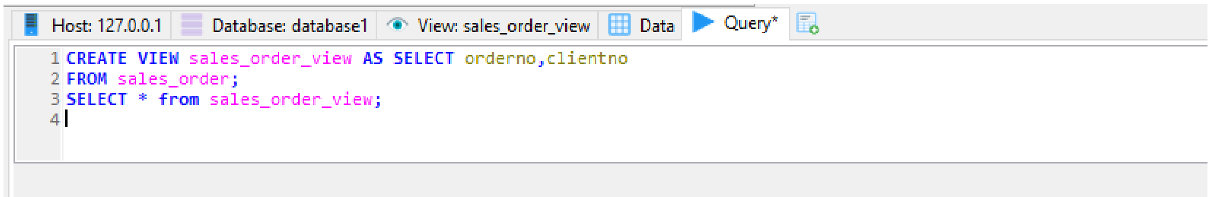
view_name is the name of VIEW.

The SELECT statement is used to define the columns and rows that you want to display in the view.

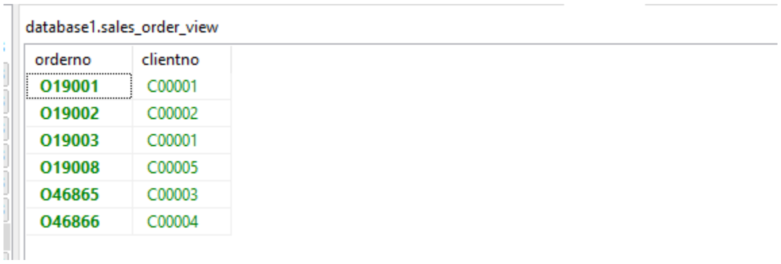
CREATE VIEW sales_order_view **AS SELECT** orderno,clientno

FROM sales_order;

SELECT * **from** sales_order_view;



```
CREATE VIEW sales_order_view AS SELECT orderno,clientno
FROM sales_order;
SELECT * from sales_order_view;
```


database1.sales_order_view

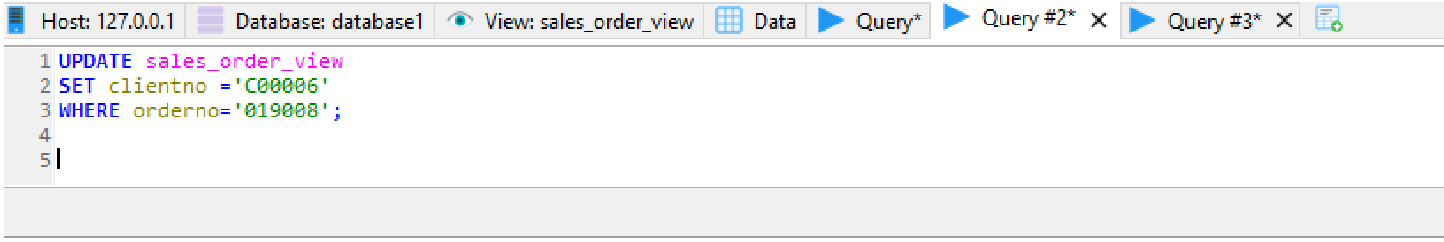
orderno	clientno
O19001	C00001
O19002	C00002
O19003	C00001
O19008	C00005
O46865	C00003
O46866	C00004

2.

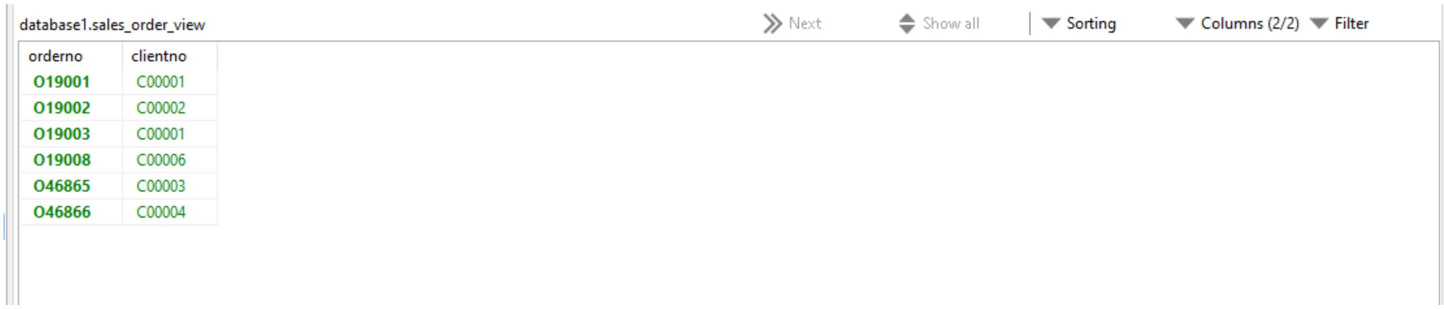
UPDATE sales_order_view

SET clientno ='C00006'

WHERE orderno='O19008';



```
UPDATE sales_order_view
SET clientno ='C00006'
WHERE orderno='O19008';
```


database1.sales_order_view

orderno	clientno
O19001	C00001
O19002	C00002
O19003	C00001
O19008	C00006
O46865	C00003
O46866	C00004

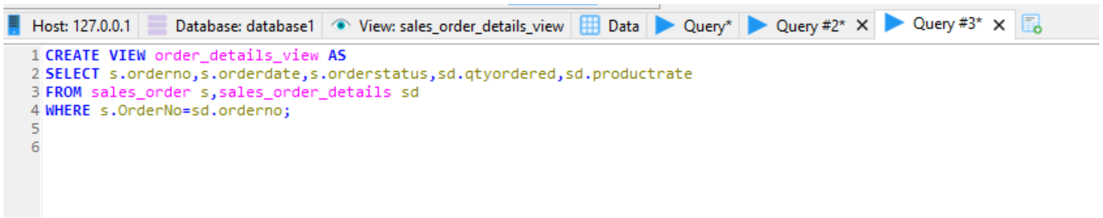
3.

CREATE VIEW_order_details_view **AS**

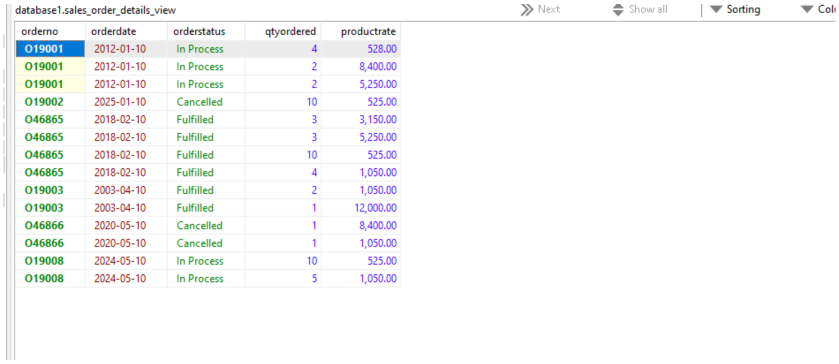
SELECT s.orderno,s.orderdate,s.orderstatus,sd.qtyordered,sd.productrate

FROM sales_order s,sales_order_details sd

WHERE s.OrderNo=sd.orderno;



```
CREATE VIEW order_details_view AS
SELECT s.orderno,s.orderdate,s.orderstatus,sd.qtyordered,sd.productrate
FROM sales_order s,sales_order_details sd
WHERE s.OrderNo=sd.orderno;
```



database1.sales_order_details_view

orderno	orderdate	orderstatus	qtyordered	productrate
O19001	2012-01-10	In Process	4	528.00
O19001	2012-01-10	In Process	2	8,400.00
O19001	2012-01-10	In Process	2	5,250.00
O19002	2025-01-10	Cancelled	10	525.00
O46865	2018-02-10	Fulfilled	3	3,150.00
O46865	2018-02-10	Fulfilled	3	5,250.00
O46865	2018-02-10	Fulfilled	10	525.00
O46865	2018-02-10	Fulfilled	4	1,050.00
O19003	2003-04-10	Fulfilled	2	1,050.00
O19003	2003-04-10	Fulfilled	1	12,000.00
O46866	2020-05-10	Cancelled	1	8,400.00
O46866	2020-05-10	Cancelled	1	1,050.00
O19008	2024-05-10	In Process	10	525.00
O19008	2024-05-10	In Process	5	1,050.00

Views in SQL are considered as a virtual table. A view also contains rows and columns.

To create the view, we can select the fields from one or more tables present in the database.

A view can either have specific rows based on certain condition or all the rows of a table.

1. Creating view

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

Syntax:

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

2. Creating View from a single table

In this example, we create a View named DetailsView from the table Student_Detail.

Query:

```
CREATE VIEW DetailsView AS
SELECT NAME, ADDRESS
FROM Student_Details
WHERE STU_ID < 4;
```

Just like table query, we can query the view to view the data.

```
SELECT * FROM DetailsView;
```

3. Creating View from multiple tables

View from multiple tables can be created by simply include multiple tables in the SELECT statement.

In the given example, a view is created named MarksView from two tables Student_Detail and Student_Marks.

Query:

```
CREATE VIEW MarksView AS
SELECT Student_Detail.NAME, Student_Detail.ADDRESS, Student_Marks.MARKS
FROM Student_Detail, Student_Mark
WHERE Student_Detail.NAME = Student_Marks.NAME;
```

To display data of View MarksView:

```
SELECT * FROM MarksView;
```

4. Deleting View

A view can be deleted using the Drop View statement.

Syntax

```
DROP VIEW view_name;
```

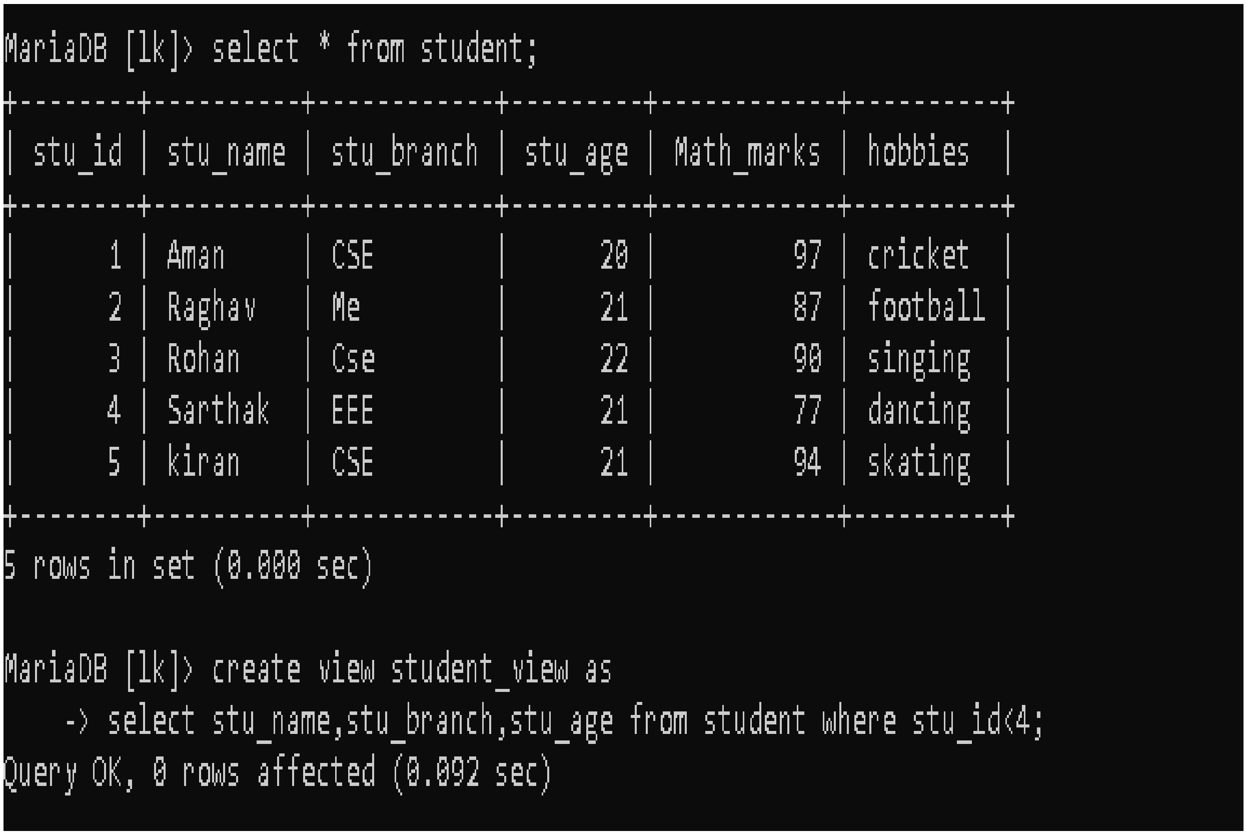
Example:

If we want to delete the View **MarksView**, we can do this as:

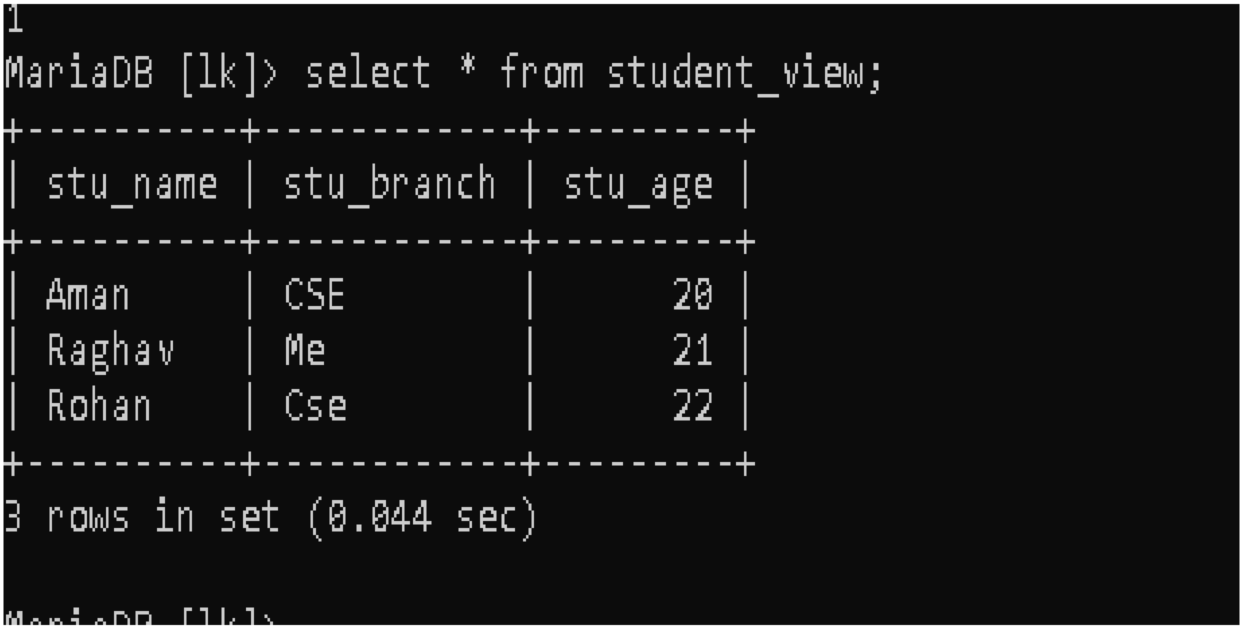
```
DROP VIEW MarksView;
```

- **OUTPUT :**

1. Creating a view :

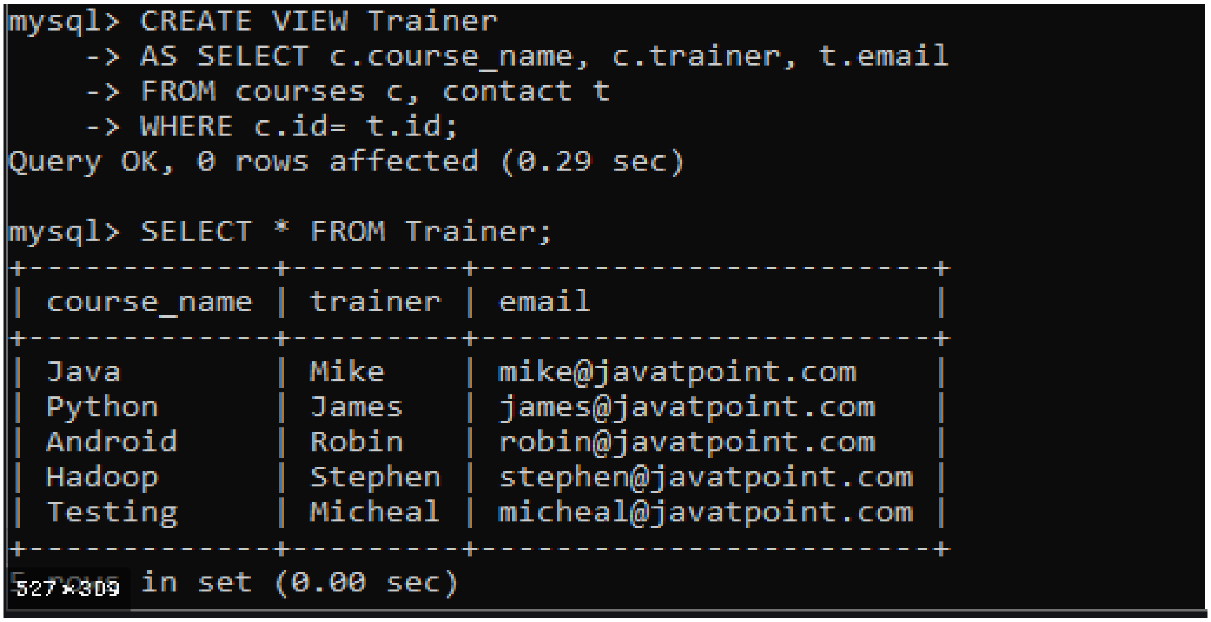


```
MariaDB [lk]> select * from student;
+--------+----------+------------+---------+------------+----------+
| stu_id | stu_name | stu_branch | stu_age | Math_marks | hobbies  |
+--------+----------+------------+---------+------------+----------+
|      1 | Aman     | CSE        |      20 |         97 | cricket  |
|      2 | Raghav   | Me         |      21 |         87 | football |
|      3 | Rohan    | Cse        |      22 |         90 | singing  |
|      4 | Sarthak  | EEE        |      21 |         77 | dancing  |
|      5 | kiran    | CSE        |      21 |         94 | skating  |
+--------+----------+------------+---------+------------+----------+
5 rows in set (0.000 sec)

MariaDB [lk]> create view student_view as
    -> select stu_name,stu_branch,stu_age from student where stu_id<4;
Query OK, 0 rows affected (0.092 sec)
```



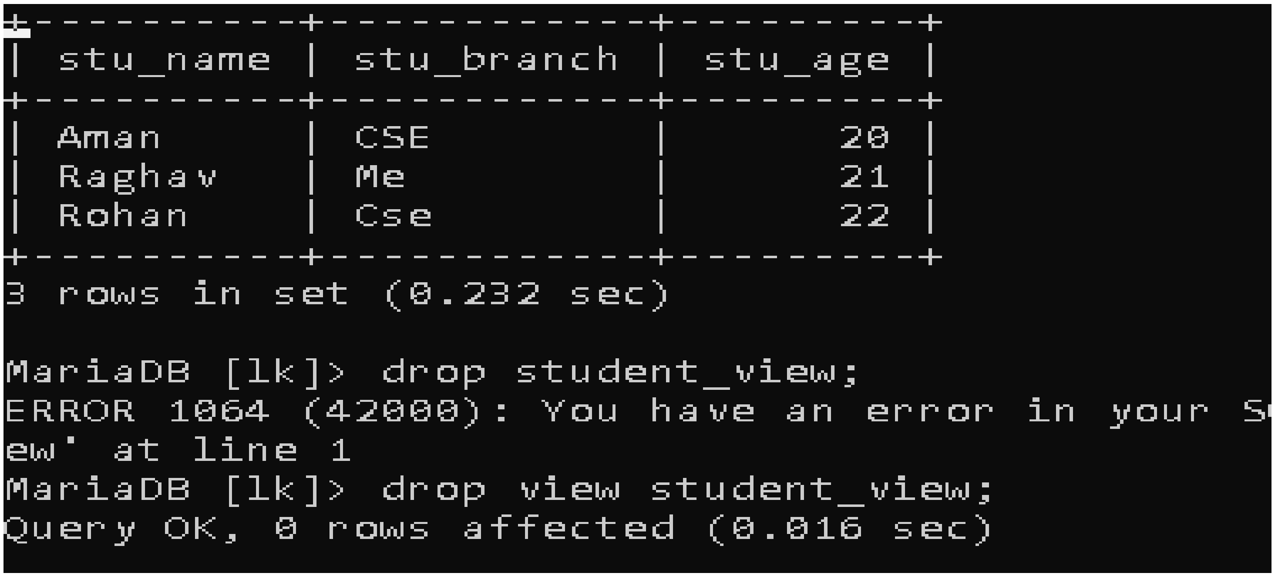
```
1
MariaDB [lk]> select * from student_view;
+----------+-----------+---------+
| stu_name | stu_branch | stu_age |
+----------+-----------+---------+
| Aman     | CSE        |      20 |
| Raghav   | Me         |      21 |
| Rohan    | Cse        |      22 |
+----------+-----------+---------+
3 rows in set (0.044 sec)

MariaDB [lk]>
```

2. . Creating View from multiple tables



```
mysql> CREATE VIEW Trainer
    -> AS SELECT c.course_name, c.trainer, t.email
    -> FROM courses c, contact t
    -> WHERE c.id= t.id;
Query OK, 0 rows affected (0.29 sec)

mysql> SELECT * FROM Trainer;
+-------------+---------+------------------------+
| course_name | trainer | email                  |
+-------------+---------+------------------------+
| Java        | Mike    | mike@javatpoint.com    |
| Python      | James   | james@javatpoint.com   |
| Android     | Robin   | robin@javatpoint.com   |
| Hadoop      | Stephen | stephen@javatpoint.com |
| Testing     | Micheal | micheal@javatpoint.com |
+-------------+---------+------------------------+
5 rows in set (0.00 sec)
```

3. Deleting View



```
+----------+------------+---------+
| stu_name | stu_branch | stu_age |
+----------+------------+---------+
| Aman     | CSE        |      20 |
| Raghav   | Me         |      21 |
| Rohan    | Cse        |      22 |
+----------+------------+---------+
3 rows in set (0.232 sec)

MariaDB [lk]> drop student_view;
ERROR 1064 (42000): You have an error in your S
ew' at line 1
MariaDB [lk]> drop view student_view;
Query OK, 0 rows affected (0.016 sec)
```

VIVA QUESTIONS

Q.1: What is a VIEW?

Ans:

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 certain condition. They are used to restrict access to the database or to hide data complexity. A view is stored as a SELECT statement in the database. DML operations on a view like INSERT, UPDATE, DELETE affects the data in the original table upon which the view is based.

Q.2: How we create a VIEW?

Ans:

A view is a virtual table based on the result set of an SQL statement. The CREATE VIEW command creates a view. At first, we need to specify the **CREATE VIEW** statement and then we have to give a name to the view. In the second step, we define the **SELECT** statement after the **AS** keyword. Views can be created from a single table, multiple tables or another view. The basic CREATE VIEW syntax is as follows –

```
CREATE VIEW view_name AS

SELECT column1, column2.....

FROM table_name

WHERE [condition];
```

Q.3: What is the purpose of creating a VIEW?

Ans:

Views are used to limit the visibility of data of the table to just those specific tasks. Also, the view is used for combining the data from multiple tables into a logical table. Views can be used to aggregate rows (using GROUP BY and HAVING) of a table with better detail. The view is used to summarize the data from multiple tables so that views can be used to generate reports. Views can simplify support legacy code. If you need to refactor a table that would break a lot of code, you can replace the table with a view of the same name. The view provides the exact same schema as the original table, while the actual schema has changed. This keeps the legacy code that references the table from breaking, allowing you to change the legacy code at your leisure. Views are used for security purposes because they provide encapsulation of the name of the table. Data is in the virtual table, not stored permanently. Views display only selected data.

Q.4: What is the syntax of creating a VIEW?

Ans:

The basic CREATE VIEW syntax is as follows –

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

Q.5: How many VIEWS can be created for a table?

Ans:

Database users can create multiple VIEWS from a table, thus one view can aggregate data from other views.