TASK-7

Views: is a virtual table created using a SELECT query that simplifies data access by presenting a specific slice or transformation of underlying data. Unlike physical tables, views do not store data themselves; they generate results dynamically when queried. Basic views are commonly used to hide complexity, combine columns from different tables, or rename columns for user-friendly outputs.

Join Views: are views that include one or more JOIN operations in their definition, allowing data from multiple related tables to be accessed as if it were a single table. They are especially helpful in normalised databases, where users can work with a unified structure without writing complex join logic repeatedly. However, updating data through join views can be restricted depending on the database rules.

Security Views: designed to control and restrict access to sensitive data. By creating a view that only includes specific columns or rows, database administrators can grant permissions to users for that view instead of the base table. This helps enforce row-level or column-level security without compromising underlying data access control.

Views with WITH CHECK OPTION: it ensures that any INSERT or UPDATE operation through the view must result in rows that remain visible in the view. This helps maintain logical consistency, especially in filtered views, by preventing users from modifying data in a way that violates the view's condition.

Data Abstraction: through views allows users to interact with simplified data representations without worrying about the underlying schema complexity. For instance, a view can combine data from several normalized tables into a flat, readable structure. This abstraction hides technical details, supports business-friendly interfaces, and promotes separation between application logic and data models.

Panel 1:

Query | Query History

```
1  SELECT * FROM public.active_products_view
2
```

Data Output | Messages | Notifications

Showing rows: 1 to 7   Page No: 1

	product_id integer	product_name character varying (100)	description text	price numeric (10,2)	stock_quantity integer	category_id integer	created_at timestamp without time zone
1	3	Men's T-Shirt	Cotton crew-neck t-shirt	19.99	200	2	2025-06-23 14:21:37.130968
2	4	Women's Jeans	Slim-fit denim jeans	39.99	150	2	2025-06-23 14:21:37.130968
3	5	Blender	High-speed kitchen blender	59.99	75	3	2025-06-23 14:21:37.130968
4	6	Cookbook	Best-selling recipe collection	24.99	30	4	2025-06-23 14:21:37.130968
5	1	Smartphone X	Latest smartphone with advanced camera	967.99	50	1	2025-06-23 14:21:37.130968
6	2	Wireless Earbuds	Noise-cancelling wireless earbuds	181.49	100	1	2025-06-23 14:21:37.130968
7	7	Smart Watch	Fitness tracking smartwatch	241.99	40	1	2025-06-23 14:21:37.130968

Panel 2:

Query | Query History

```
1  SELECT * FROM public.customer_contacts_view
2
```

Data Output | Messages | Notifications

Sho

	customer_id integer	first_name character varying (50)	last_name character varying (50)	email character varying (100)	phone character varying (20)
1	1	John	Smith	john.smith@example.com	555-0101
2	3	Michael	Williams	michael.w@example.com	555-0103
3	4	Sarah	Brown	sarah.b@example.com	555-0000
4	5	Robert	Wilson	robert.w@example.com	555-0000
5	7	Emma	Davis	emma.d@example.com	[null]
6	8	James	Miller	james.m@example.com	[null]
7	9	Olivia	Wilson	olivia.w@example.com	[null]
8	10	William	Moore	william.m@example.com	[null]
9	11	Sophia	Taylor	sophia.t@example.com	[null]

Panel 3:

Query | Query History

```
1  SELECT * FROM public.customer_orders_view
2
```

Data Output | Messages | Notifications

	customer_id integer	customer_name text	total_orders bigint	total_spent numeric
1	10	William Moore	0	[null]
2	1	John Smith	3	919.94
3	3	Michael Williams	1	59.99
4	8	James Miller	0	[null]
5	5	Robert Wilson	0	[null]
6	7	Emma Davis	0	[null]
7	9	Olivia Wilson	0	[null]
8	4	Sarah Brown	0	[null]
9	11	Sophia Taylor	0	[null]

```
1    SELECT * FROM public.order_details_view
2
```

Data Output   Messages   Notifications

Showing rows: 1 to

	order_id integer	order_date timestamp without time zone	customer text	status character varying (20)	total_amount numeric (10,2)	products text
1	1	2023-05-15 10:30:00	John Smith	delivered	799.99	Smartphone X
2	3	2023-05-17 09:45:00	Michael Williams	processing	59.99	Blender
3	4	2023-05-18 16:20:00	John Smith	pending	79.97	Men's T-Shirt, Women's Jeans
4	5	2025-06-25 21:11:26.728029	John Smith	pending	39.98	Men's T-Shirt

```
1    SELECT * FROM public.product_catalog_view
2
```

Data Output   Messages   Notifications

	product_id integer	product_name character varying (100)	price numeric (10,2)	category_name character varying (50)	stock_quantity integer
1	3	Men's T-Shirt	19.99	Clothing	200
2	4	Women's Jeans	39.99	Clothing	150
3	5	Blender	59.99	Home & Kitchen	75
4	6	Cookbook	24.99	Books	30
5	1	Smartphone X	967.99	Electronics	50
6	2	Wireless Earbuds	181.49	Electronics	100
7	7	Smart Watch	241.99	Electronics	40
8	9	Wireless Charger	36.29	Electronics	0