🎯 Main Aim

To segment customers based on purchasing patterns using SQL-based clustering techniques to support targeted marketing strategies and improved decision-making.

✅ Solution Overview

- Use SQL queries to implement clustering on customer transaction data.
- Normalize data and assign clusters based on centroids.
- Reallocate customers to more accurate clusters iteratively.
- Identify behavior patterns in each group for business insights.

🟩 Slide-by-Slide Presentation Content

🌿 Slide 1: Title Slide

Text to Say:

Good [morning/afternoon], everyone.
Today, I'll be presenting our project on **Customer Segmentation Using Clustering Algorithms**, which is a practical approach to group similar customers together based on their spending behavior using SQL.

🌿 Slide 2: Introduction & Problem Statement

Text to Say:

Businesses today collect a huge amount of customer data.
The main problem is making sense of this data to deliver **personalized experiences**.
Our goal is to **group customers** based on their **spending patterns, purchase frequency, and recency** of purchases.
This segmentation helps in **targeted marketing**, **product recommendations**, and **better customer service**.

🌿 Slide 3: Objective & Methodology

Text to Say:

The objective is to perform customer segmentation using **clustering techniques implemented in SQL**.
Here's our methodology:

1. **Create a database** and insert the customer transaction data.

2. **Normalize the values** to bring them to the same scale.
3. **Apply clustering** by assigning initial centroids.
4. Measure distance, **assign customers to the closest centroid**.
5. **Recalculate centroids** and reassign until clusters stabilize.
   This iterative process results in meaningful segmentation of customer data.

🌿 Slide 4: Results & Conclusion

Text to Say:

After processing the data, we successfully identified **four customer clusters**.
Each cluster represented a distinct set of behaviors – such as high spenders, frequent buyers, or dormant customers.
The SQL-based method proved to be:

- **Structured**
- **Scalable**
- **Effective** for business use cases.
  It shows how we can handle large-scale data and extract useful patterns without advanced tools – just using SQL!

🌿 Slide 5: Thank You

Text to Say:

Thank you for your attention!
I'd be happy to answer any questions you may have.