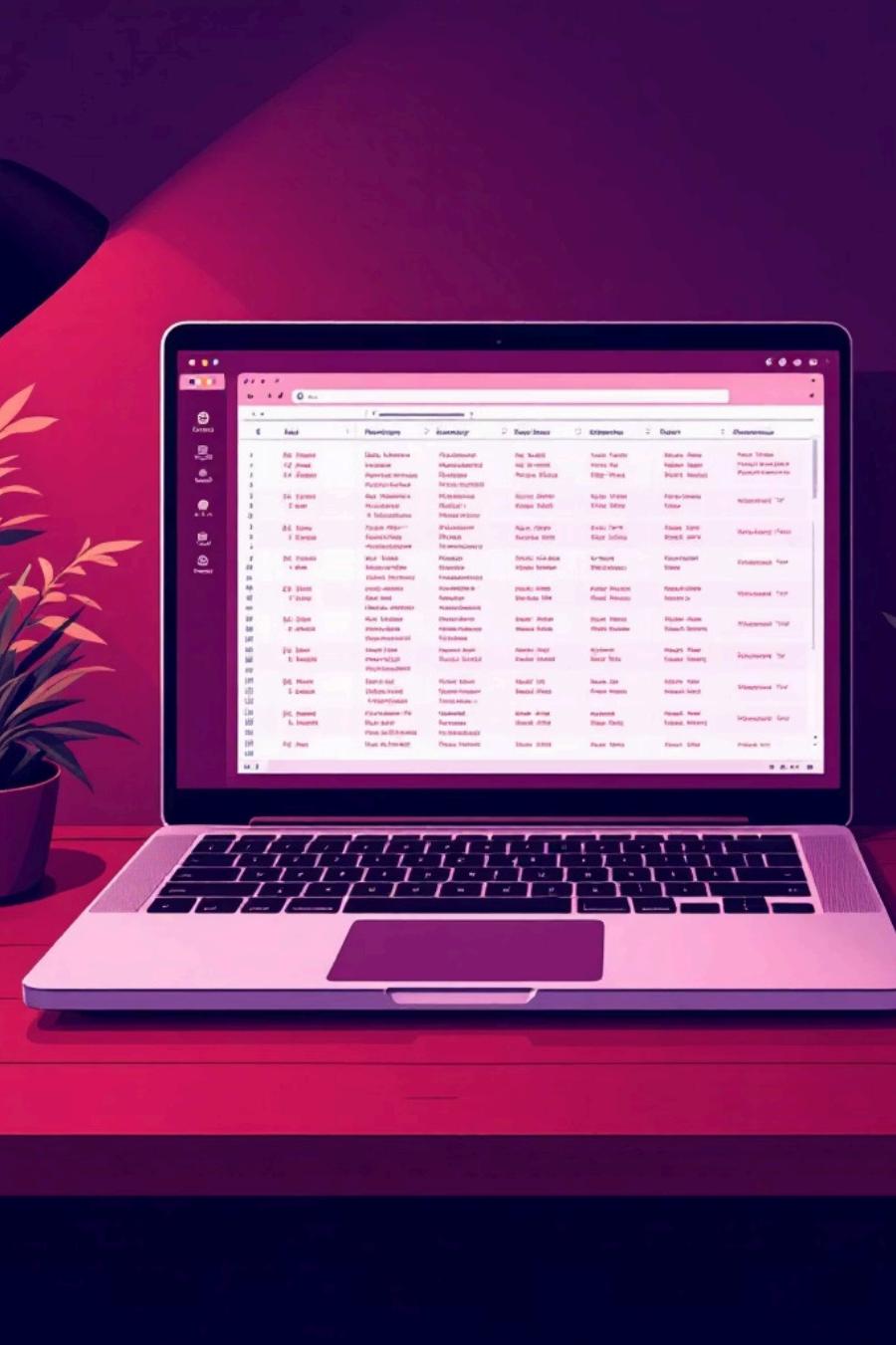


# Customer Shopping Behavior – Project Overview

Analyze 3,900 purchases to reveal spending patterns, segments, preferences, subscription behavior.





# Dataset Summary

## Size

Rows: 3,900 ·  
Columns: 18

## Key Features

Demographics,  
Purchase details,  
Shopping behavior

## Missing Data

37 missing values  
in Review Rating



# EDA in Python

- Data Loading  
Imported with pandas
- Exploration  
df.info() · .describe()
- Missing Data  
Imputed Review Rating by category median



# Data Prep & Integration

- Column Standardization

- Renamed to snake\_case

- Feature Engineering

- age\_group; purchase\_frequency\_days

- Consistency Check

- Dropped promo\_code\_used (redundant with discount\_applied)

- Database

- Loaded cleaned DataFrame into MySQL Workbench

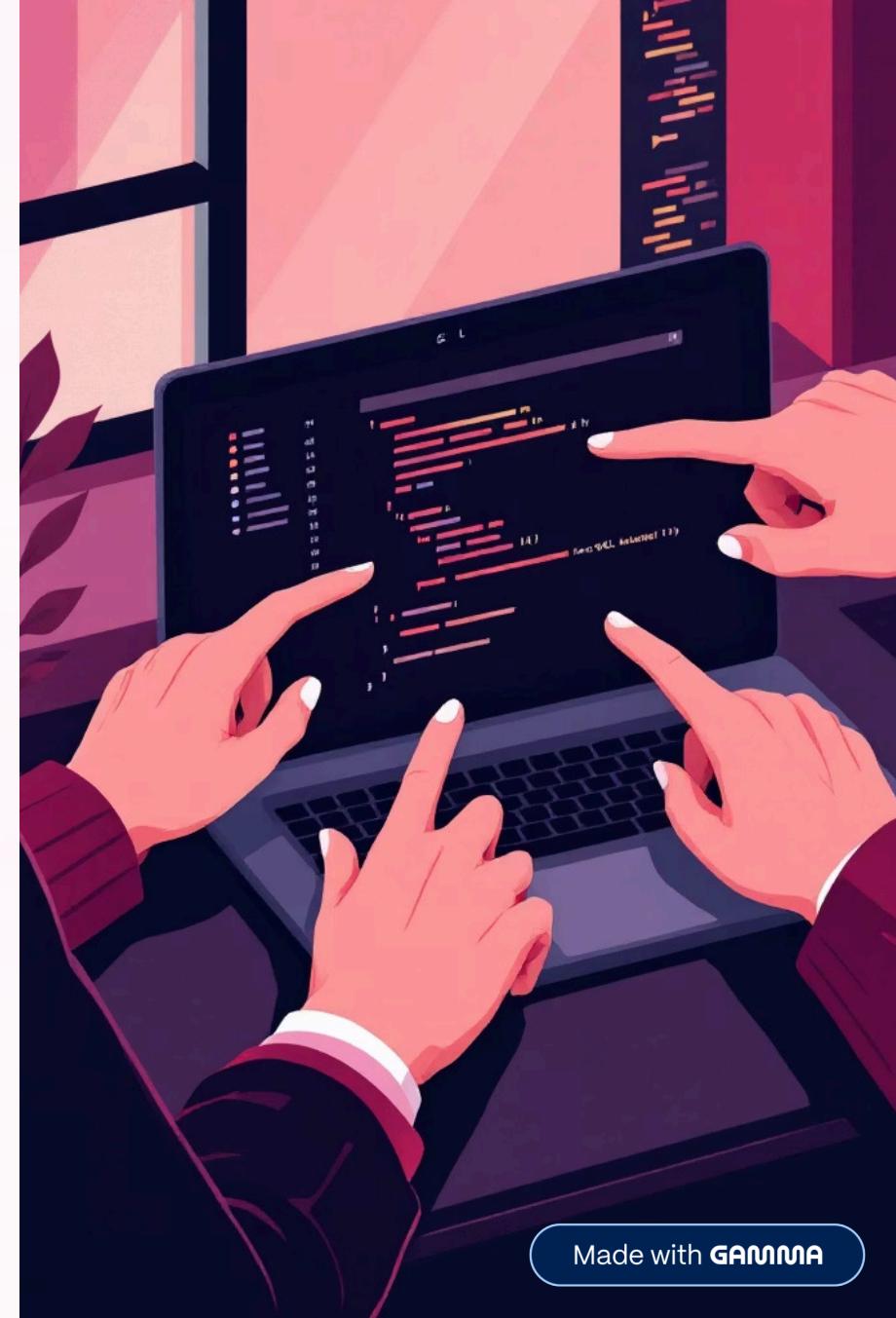
# SQL Analysis – Key Questions

Revenue by Gender

High-Spending Discount Users

Top 5 Products by Rating

Shipping Type Comparison



# More SQL Questions

Subscribers  
vs. Non-  
Subscribers

Discount-  
Dependent  
Products

Customer  
Segmentatio  
n

Top 3 Products per Category



# Final SQL Checks



- Repeat Buyers & Subscriptions  
Do >5 purchase customers subscribe more?
- Revenue by Age Group  
Total revenue contribution per age bucket

# Dashboard – Power BI

Interactive visuals to explore segments, top products, discounts, shipping, subscriptions.



# Business Recommendations



## Boost Subscriptions

Promote exclusive subscriber benefits



## Customer Loyalty

Reward repeat buyers to grow 'Loyal' segment



## Review Discounts

Balance sales lift with margin control



## Targeted Marketing

Focus on high-revenue age groups and express-shipping users

# Next Steps

01

## Refine Dashboard

Add filters for segments & discounts

02

## Test Campaigns

Promote top-rated products to subscribers

03

## Monitor KPIs

Track subscriptions, repeat purchases,  
margin impact



- Theme accents: use #FFB393 and #421424 for emphasis in visuals and callouts.