Customer Shopping Behavior Analysis

3,900 purchases • 18 features • Transactional insights
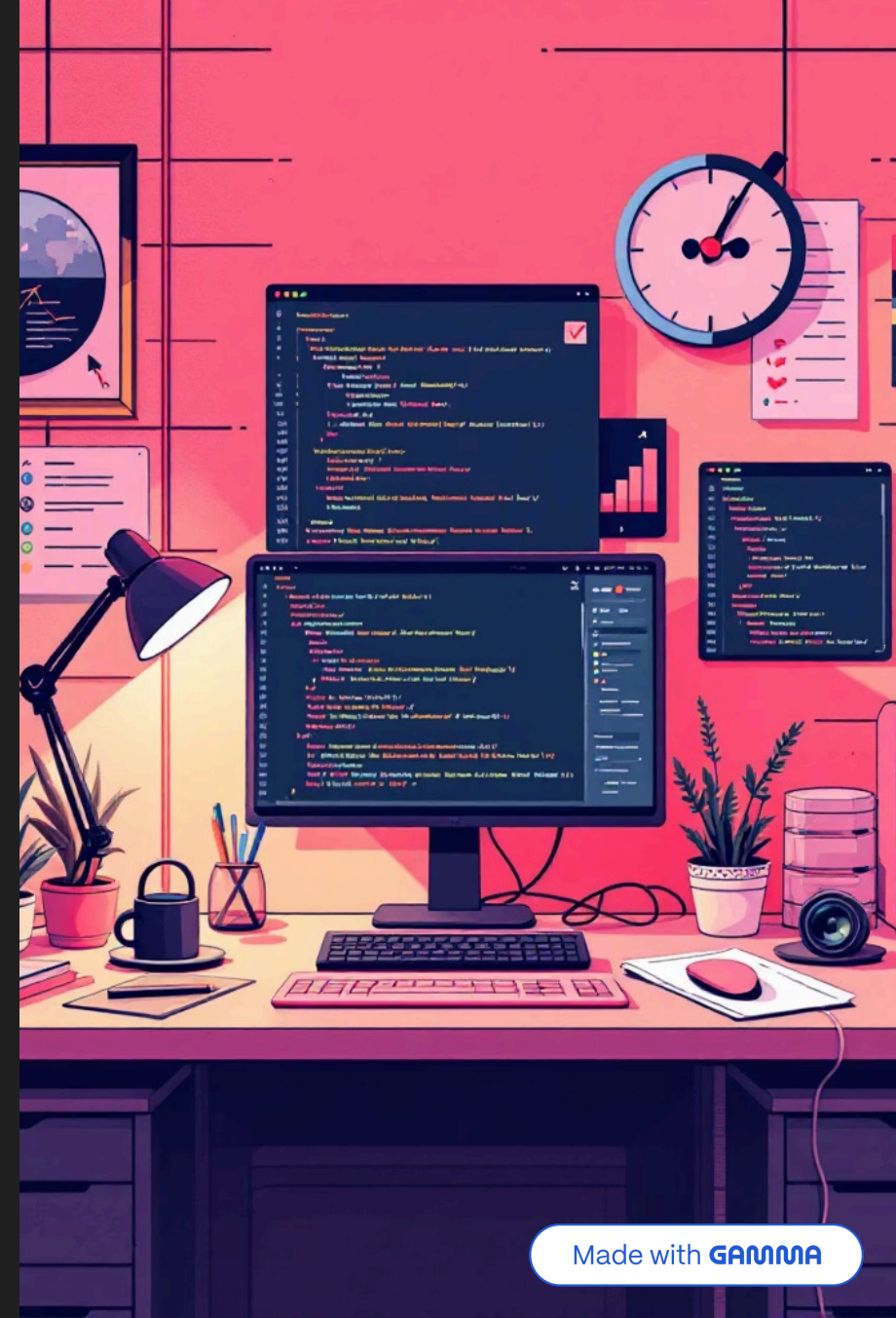
Project Overview

Goal

Uncover spending patterns, segments, preferences, subscriptions

Data

3,900 transactions across categories

Dataset Summary

Key Features

Age, Gender, Item, Category,
Amount, Season, Rating,
Subscription, Shipping

Size & Quality

Rows: 3,900 • Columns: 18 • 37
missing ratings

Exploratory Data Analysis (Python)

- **Steps**
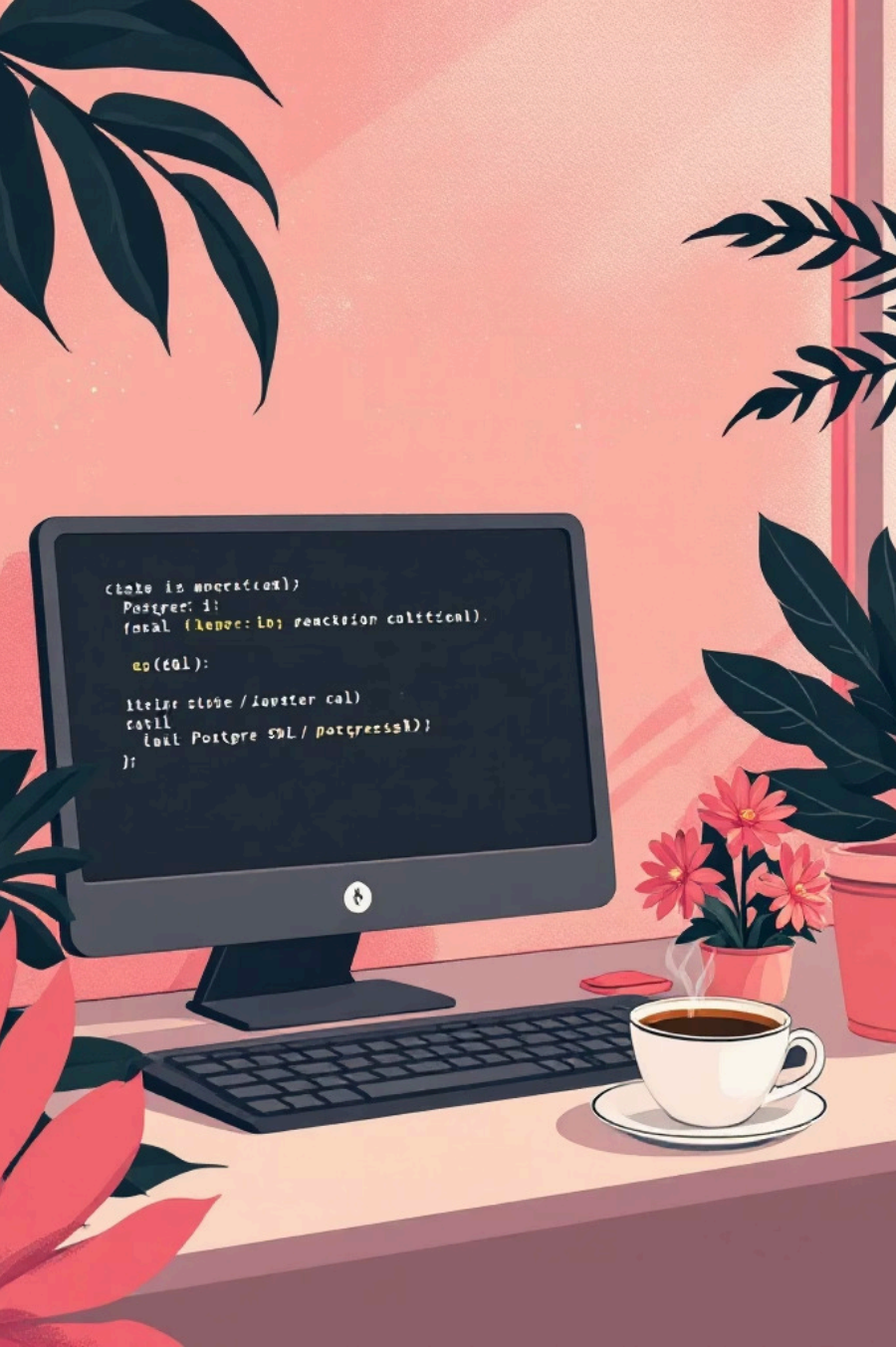
  Load data • df.info() • .describe()

- **Prep**

  Impute ratings by category • rename to snake_case

- **Features**

  age_group, purchase_frequency_days

SQL Analysis – Key Findings

Revenue by Gender

Female: $75,191 • Male: $157,890

High-Spend Discount Users

839 rows identified (examples: purchases 64–97 USD)

Made with GAMMA

Top Products & Discounts

Gloves

Avg rating 3.86
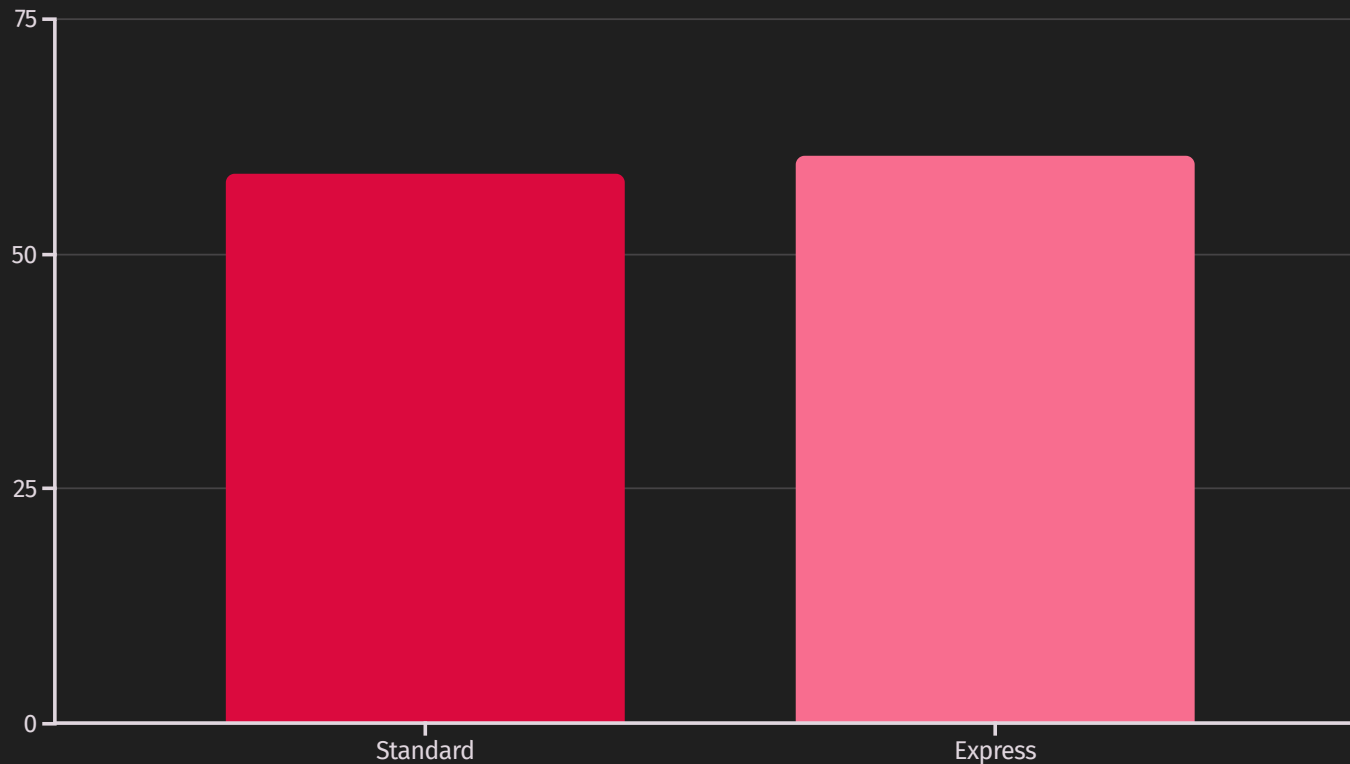
Sandals

Avg rating 3.84

Boots

Avg rating 3.82

Hat

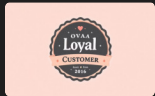Avg rating 3.80 • 50% discount rate

Shipping & Subscription Insights

Subscribers: 1,053 • Avg spend $59.49 • Revenue $62,645

Non-subscribers: 2,847 • Avg spend $59.87 • Revenue $170,436

Subscription gap: revenue concentration in non-subscribers

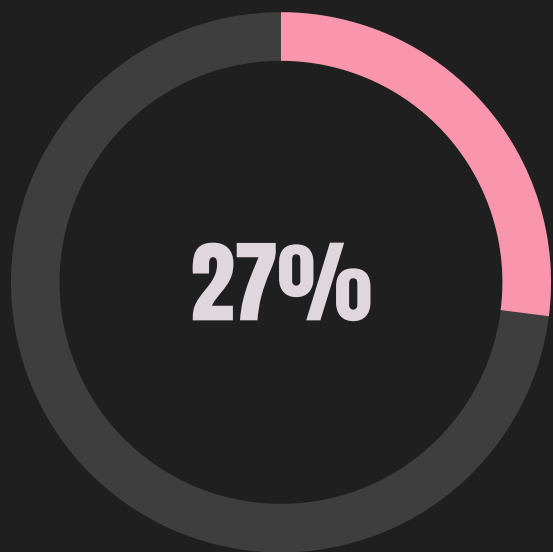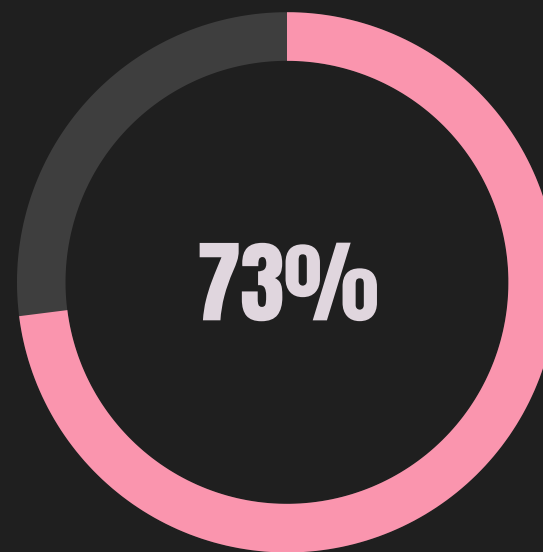# Customer Segmentation

Loyal

3,116 customers

New

83 customers

Returning

701 customers

Dashboard Highlights

27%

Subscribers (Yes)

73%

Subscribers (No)

Top revenue: Clothing $100K • Accessories $70K • Footwear $30K • Outerwear $20K

Business Recommendations

Boost Subscriptions

Promote exclusive benefits

Loyalty Programs

Reward repeat buyers to grow 'Loyal'

Review Discounts

Balance sales uplift with margins

Product Positioning

Highlight top-rated, best-selling items

Targeted Marketing

Focus high-revenue age groups & express-shipping users