Customer Shopping Trends - Entity Relationship Model

AUTHOR
Praveen Kumar Manikanth Gane

PUBLISHED
February 24, 2025

`GitHub Repository`: https://github.com/ganepraveen/Advance_db/tree/main/ER_Diagrams_assigment

Project Description

This report Documents the process of extarcting entities,attributes and relationship from the customershopping dataset. and the processed information generated into a Entity-Relationship (ER) model using Crow's Foot Notation.

Dataset Overview

The dataset contains customer shopping behavior data, including demographic details, product preferences, and purchasing patterns.

Entity Identification and Attributes

Customer Entity

- **Primary Key:** `Customer ID`
- Attributes: `Age`, `Gender`, `Location`, `Subscription Status`

Product Entity

- **Primary Key:** `Item Purchased`
- Attributes: `Category`, `Size`, `Color`, `Season`

Purchase Entity

- **Primary Key:** `Purchase ID`
- **Foreign Keys:** `Customer ID` (references `Customer`), `Item Purchased` (references `Product`)
- Attributes: `Purchase Amount`, `Review Rating`, `Discount Applied`, `Promo Code Used`, `Payment Method`, `Shipping Type`

Payment Entity

- **Primary Key:** `Customer ID`
- Attributes: `Preferred Payment Method`

Shipping Entity

- **Primary Key:** `Customer ID`
- Attributes: `Shipping Type`

Purchase Frequency Entity

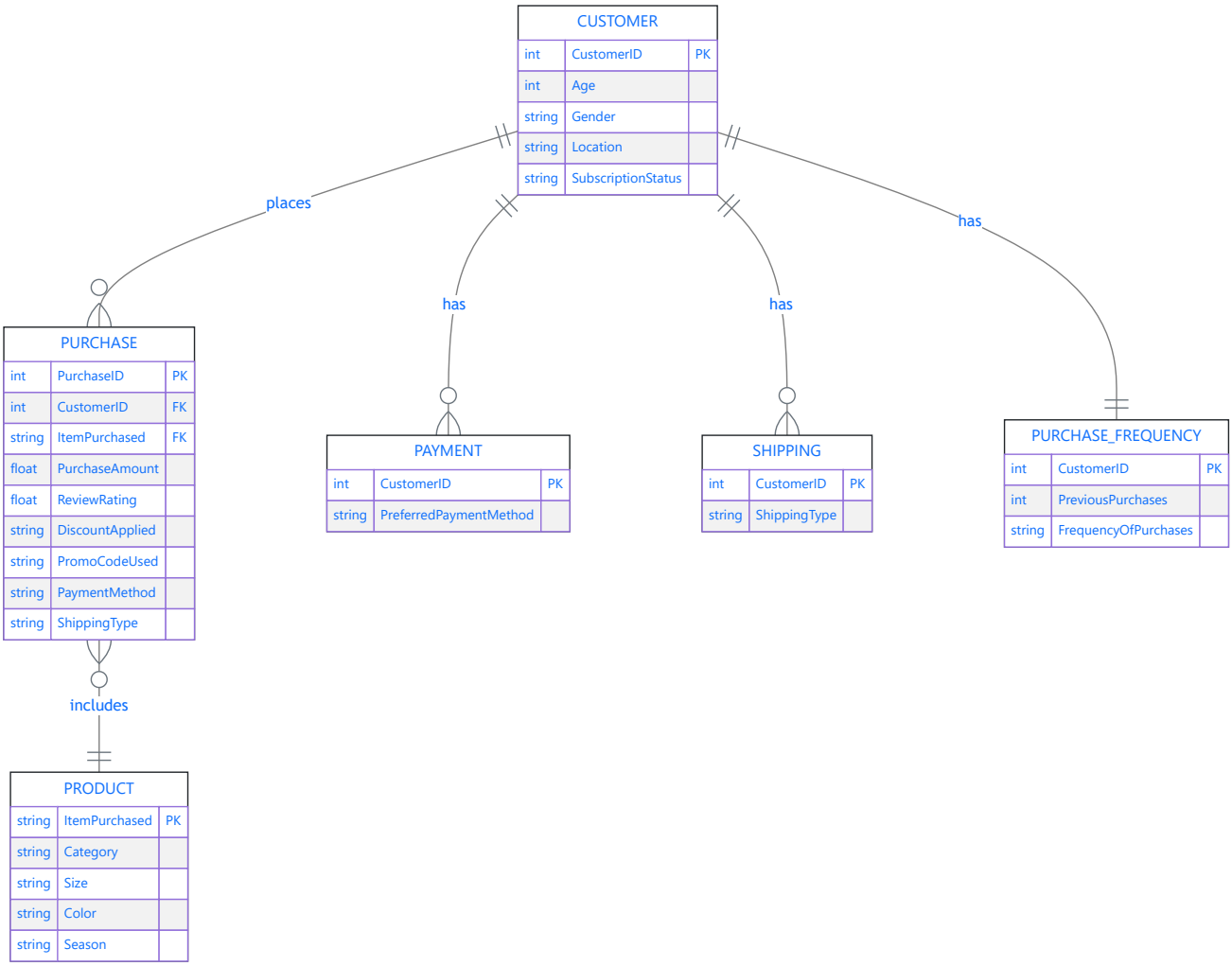
- **Primary Key:** `Customer ID`
- Attributes: `Previous Purchases`, `Frequency Of Purchases`

Relationships and Cardinality

- A **Customer** can place multiple **Purchases** (1:M)
- A **Purchase** includes one **Product** (M:1)
- A **Customer** can have multiple **Payments** (1:M)
- A **Customer** can have multiple **Shipping** preferences (1:M)
- A **Customer** has a **Purchase Frequency** record (1:1)

ER Diagram

Below is the Entity-Relationship Diagram in Crow's Foot Notation.



Conclusion

This ER model provides the detailed representation of the customer dataset ensuring database design , data mangement and importance of relationship between the attributes of differenrt tables.