1. Requirement Gathering:
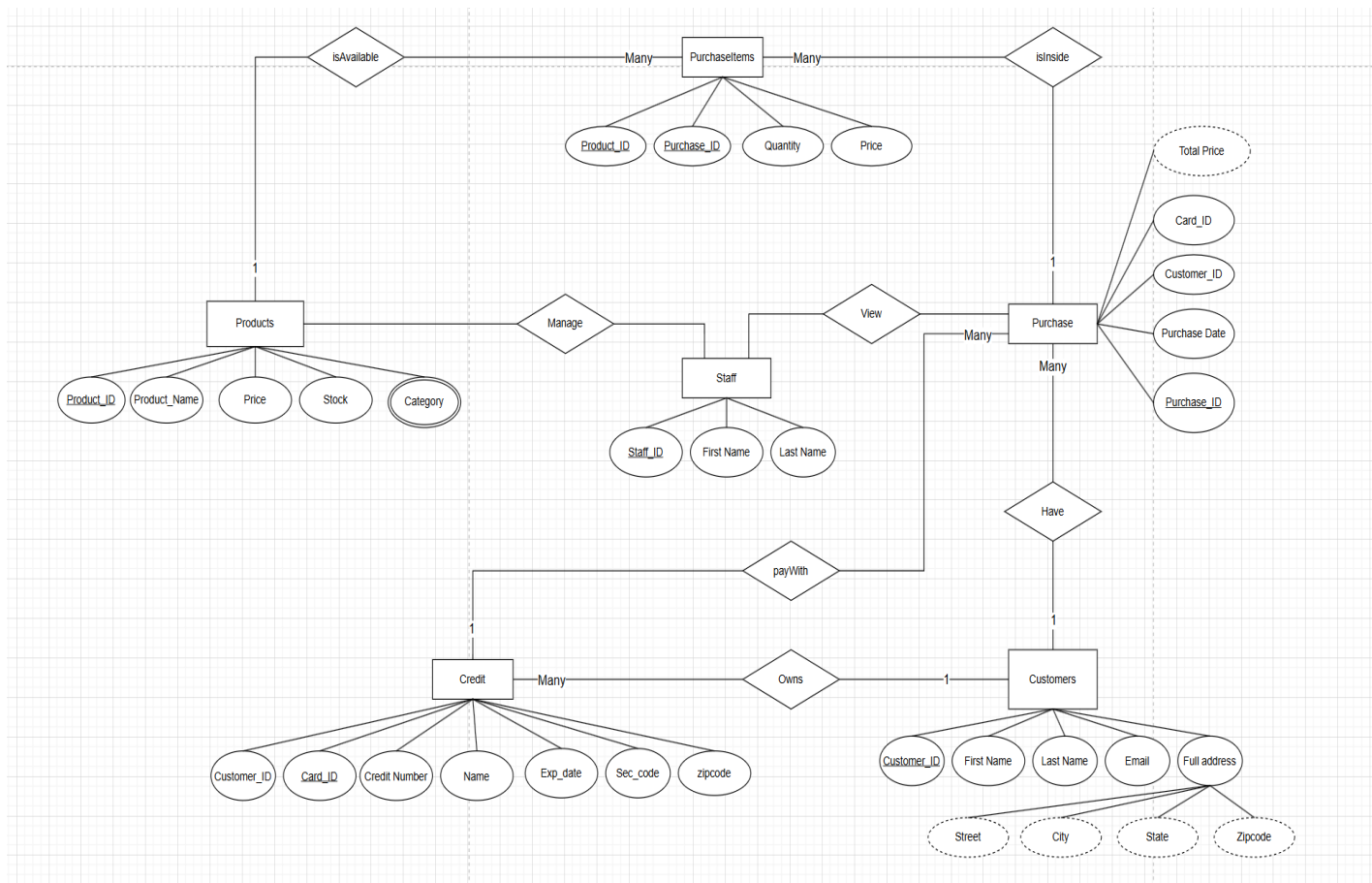
- Topic: This is the e-commerce system with the backends that serves 2 main user roles:

- Staff member:
  + Adding/ Editing product details
  + Managing Inventory
  + Viewing Transactions
- Customers:

  + Purchase items

  + Add credit cards to their accounts

  + Browse available products

2. ER Diagram:

- Entities: Customer, Staff, Purchase, Credit, Product, PurchaseItems

3.Schema Design:

- Customer:

- Customer_ID (PK)
- First Name
- Last Name
- Email
- Street
- City
- State
- Zipcode

- Staff:

- Staff_ID (PK)
- First Name
- Last Name

- Product:

- Product_ID (PK)
- Product Name
- Price
- Stock

- Category:

- category_id (PK)
- category_name

- Product Category:

- product_ID (FK, PK)
- category_ID (FK, PK)

- Credit:

- customer_ID (FK)
- card_ID (PK)
- credit number
- name
- exp_date
- sec_code

- zipcode

- **Purchase:**

- purchase_ID (PK)
- purchase_date
- customer_ID (FK)
- card_ID (FK)
- total price (derived attribute by SUM(Quantity * Price) for all item in PurchaseItems table)

- **PurchaseItems:**

- purchase_ID (PK, FK to Purchase Table)
- product_ID (PK, FK to Product Table)
- quantity
- price