**Business Scenario:**

Newfie Nook is an ecommerce platform dedicated to celebrating the culture, flavors, and craftsmanship of Newfoundland and Labrador. The platform offers a curated selection of products made by Newfoundlanders and Labradorians, ranging from iconic treats to unique artisanal creations. Vendors control the products they list and receive notifications for sales.

**Entities for Database Creation:**

* **Product:**
  + Attributes: Product ID, Product Name, Description, Price, Image, Category ID, Person ID.
  + Description: Represents the products available for purchase on the platform. Includes both NL treats (e.g., Purity Products, Pineapple Crush, Caramel Logs) and artisanal creations (e.g., handcrafted sea glass jewelry, traditional knitwear).
* **Product Category:**
  + Attributes: Product ID, Category ID.
  + Description: Establishes relationships between products and their corresponding categories on the Newfie Nook platform. Each record in this entity indicates that a specific product belongs to a particular category.
* **Person:**
  + Attributes: Person ID, Person Name, Email, Phone number, Person type (customer or vendor).
  + Description: The entity contains general information about users on the Newfie Nook platform. Each person is uniquely identified by a Person ID. The attributes include the person's name, email, phone number, and specify whether the person is a customer or a vendor. This entity serves as the foundation for establishing the basic information and user type on the platform.
* **Customer:**
  + Attributes: Customer ID, Person ID.
  + Description:Represents individuals who have created accounts on the Newfie Nook platform. Each customer is uniquely identified by a Customer ID. The association with Person ID establishes a link to the general information of the customer, such as their name, contact details, and address. This entity is crucial for order processing and maintaining customer-specific information on the platform.
* **Address:**
  + Attributes: Address ID, Person ID, Street Address, City, Province, Postal Code, Address Type (mailing or billing).
  + Description: Stores information related to the addresses of individuals on the Newfie Nook platform. Each address is uniquely identified by an Address ID. The attributes include the street address, city, province, postal code, and the type of address, indicating whether it is for mailing or billing purposes. This entity is crucial for managing and organizing the location details associated with users on the platform.
* **Customer Account:**
  + Attributes: Account ID, Person ID, Username, Password, Payment Information.
  + Description: This entity is crucial for managing customer authentication, enabling access to personalized features, and securely processing payment information for orders on the platform.
* **Vendor:**
  + Attributes: Vendor ID, Person ID, Vendor Name, Contact person.
  + Description: Represents the artisans and businesses from Newfoundland and Labrador who supply products to Newfie Nook.
* **Vendor Account:**
  + Attributes: Account ID, Person ID, Username, Password
  + Description: This entity is essential for providing vendors with secure access to the platform, enabling them to manage their product listings, update inventory, and track sales performance. It plays a key role in facilitating vendor-specific functionalities and interactions within the platform.
* **Order Invoice:**
  + Attributes: Invoice ID, Person ID, Date, Shipping Information.
  + Description: Entity represents the records of invoices generated for customer orders on the Newfie Nook platform. This entity is crucial for tracking and managing order-related financial transactions, providing a record of the purchase details and associated shipping information.

**Also the Newfie Nook DB contains 4 join tables which facilitate many-to-many relationships between various entities.**

**Person\_Address (join table):**

**Description:** This join table serves to establish the many-to-many relationship between the "Person" and "Address" entities. It allows a person to have multiple addresses, and an address to be associated with multiple persons. The combination of Person\_ID and Address\_ID in this table acts as a bridge, linking individuals to their respective addresses.

**ProductCategory\_Product (join table):**

**Description:** This join table facilitates the many-to-many relationship between "Product" and "ProductCategory." It allows a product to belong to multiple categories and a category to encompass multiple products. The combination of Product\_ID and Category\_ID in this table establishes these relationships, enabling effective categorization and organization of products on the Newfie Nook platform.

**Vendor\_Products (join table):**

**Description:** This join table plays a crucial role in handling the many-to-many relationship between "Vendor" and "Product." It enables vendors to supply multiple products, and a product to be associated with multiple vendors. The combination of Person\_ID (Vendor) and Product\_ID in this table establishes these relationships, providing a mechanism for managing the diverse product offerings from different vendors on the platform.

**Product\_Order (join table):**

**Description:** This join table manages the many-to-many relationship between "Product" and "OrderInvoice." It allows for multiple products to be associated with an order invoice, and an individual product to be part of multiple order invoices. The combination of Product\_ID and Invoice\_ID in this table links specific products to the corresponding order invoices, enabling effective tracking and management of customer purchases and transactions on the Newfie Nook platform.

**Business Rules:**

Product Rules:

Each product must have a unique Product ID.

Product Name, Description, Price, and Category ID are mandatory fields for product listing.

The Image field should contain a visual representation of the product.

A product can belong to multiple categories, and each category can have multiple products.

Product Category Rules:

Product ID and Category ID together must be unique in the ProductCategory\_Product join table.

A product can belong to multiple categories, and a category can encompass multiple products.

Person Rules:

Each person must have a unique Person ID.

Person Name, Email, and Person type (customer or vendor) are mandatory fields.

Email must be unique for each person.

Customer Rules:

Each customer must have a unique Customer ID.

Customer ID and Person ID together must be unique in the Customer entity.

A customer is associated with a person, providing general information like name and contact details.

Address Rules:

Each address must have a unique Address ID.

Address ID and Person ID together must be unique in the Person\_Address join table.

Street Address, City, Province, Postal Code, and Address Type are mandatory fields.

Customer Account Rules:

Each customer account must have a unique Account ID.

Account ID and Person ID together must be unique in the Customer Account entity.

Username and Password are mandatory fields for customer authentication.

Vendor Rules:

Each vendor must have a unique Vendor ID.

Vendor ID and Person ID together must be unique in the Vendor entity.

Vendor Name and Contact person are mandatory fields.

Vendor Account Rules:

Each vendor account must have a unique Account ID.

Account ID and Person ID together must be unique in the Vendor Account entity.

Username and Password are mandatory fields for vendor authentication.

Order Invoice Rules:

Each order invoice must have a unique Invoice ID.

Invoice ID and Person ID together must be unique in the Order Invoice entity.

Date and Shipping Information are mandatory fields for order tracking.

Join Table Rules:

For each join table, the combination of the respective IDs (e.g., Person\_ID and Address\_ID) must be unique.

Join tables facilitate many-to-many relationships between entities.

These rules help maintain data integrity, ensure uniqueness, and guide the relationships between different entities in the Newfie Nook database. They are essential for the proper functioning and consistency of the ecommerce platform.