EER Diagram Assumptions

Names:
Farhan Labib, 30176224, farhan.labib@ucalgary.ca, T01, Marjaneh Hosseini (MH)
Matthew Yemer, 30047521, matthew.yemer@ucalgary.ca, T01, Marjaneh Hosseini (MH)
Tanjim Rahman, 30182328, tanjim.rahman@ucalgary.ca, T14, Sara Imani (SI)

Customer Assumptions:

- Customer may place multiple orders but each order belongs to one customer
- Customers must provide valid contact details (specifically email) to place an order
- An order may contain multiple products from any category
- EMAILS are unique among all individuals (same as real world)

Order Assumption:
- Order ID will be unique
- Any employee no matter the role can process orders

Payment Assumption:
- We are assuming that if a payment is made, then it can only be made through one method. For example, if a customer is paying for an order, the payment can be made using either a card or cash, not both.
- Payment type can be cash, credit, or debit.
- Payment is always made in full. There is no partial payment.
- Payment must be associated with a order
- Date of payment recorded

Makes Payment Assumption
- We are assuming that customers pay for an order. That it is one relationship.
- 1 Payment for 1 order only.

Supplier/Supply Delivery Assumption:
- Any employee no matter role can update inventory from supply delivery
- Supplier delivers to multiple stores
- Supply deliveries will be kept to single product shipments. Eg. A supply delivery will only contain Intel Core i9-14900K at the specified relationship quantity
- Delivery status will either be pending or delivered
- Supplier name is not unique, as in there can be suppliers with the same name. The unique ID is what separates them.

Employee assumptions:
- Employee Ids are unique
- Assume that Employee IDs are kept relatively private (will be used for admin log in)
- Employees can't switch between store locations
- You can be an employee without working at a store
- A store does not need to have employee

Store assumptions:
- We can have multiple stores in the same location(i.e. Stores from 2 companies)
- There can be new stores that do not have any employees or managers.

Product Assumptions:
- Products must belong to a category

Inventory assumptions:
- Once a Supply Delivery status is changed to delivered, inventory must be updated
- Stock levels will indicated how much of a product is held and when it was last updated

Person assumptions:
- We will assume all persons interacting with the system will be either a customer or an employee which will mean that the person has to belong to one of the subclasses.

Entity-Relationship Diagram

Person
- SSN (key)
- Address
- Name
- Phone

Person —O— (ISA) — Customer / Employee

Customer
- Email (key)
- **Customer** 1 —< Places >— N **Order**

Order
- Order ID (key)
- OrderDate
- **Order** M —< Processes >— 1 **Employee**
- **Order** 1 —< Contains >— M **Product**

Makes Payment
- **Customer** 1 —< Makes Payment >— N **Payment**
- **Order** N — Makes Payment

Payment
- Payment_no (key)
- Payment_type
- Amount
- Date

Supplier
- Supplier ID (key)
- Name
- **Supplier** 1 —< Supplies >— N **Product**
- No._of_Products
- **Supplier** 1 —< Delivers >— N **Supplier Delivery**

Product
- Name
- Product_ID (key)
- Price
- Is_Available
- **Product** N —< Has >— 1 **Store**
- **Product** M —< Belongs to >— 1 **Category**

Store
- Location
- StoreID (key)
- Name
- Phone
- **Store** 1 —< Manages >— 1 **Employee**
- **Store** 1 —< Works at >— M **Employee**

Employee
- Role
- Employee ID (key)

Category
- Generation
- Category name (key)

Supplier Delivery
- Delivery_No (key)
- Delivery Date
- Status
- **Supplier Delivery** M —< Updates >— N **Employee**

Updates
- **Updates** Q — **Inventory**

Inventory
- Inventory_ID (key)
- Stock Level
- Last Updated

Person

SSN	Name	Phone	Address

Customer

SSN	Email

Employee

SSN	EmployeeID	Role	StoreID

Order

OrderID	OrderDate	Email	Employee_ID

Product

ProductID	Name	Price	Order_ID Contains	Category Name	StoreID	Supplier_ID	Delivery_no	No._of_Products

Category

CategoryName	Generation

Supplier

Supplier_ID	Name

Store

StoreID	Location	Name	Phone	Employee_ID

Payment

Payment_no	PaymentType	Amount	Date

Supplier Delivery

Delivery_No	Supplier_ID	Status	Delivery Date

Inventory

InventoryID	StockLevel	LastUpdated

Makes Payment

Payment_No	Email	Order_ID

Updates

Employee_ID	Inventory_ID	Supplier_ID	Delivery_No