

# **ENTITY RELATIONSHIP DIAGRAM**

## **Entities and Attributes:**

### **1. Product:**

#### ○ **Attributes:**

- SKU (Primary Key)
- DesignNo
- Style
- SalePrice
- CostPrice

### **2. Sales:**

#### ○ **Attributes:**

- SaleID (Primary Key)
- SKU (Foreign Key to Product)
- QuantitySold
- SalePrice
- SaleDate

### **3. Expense:**

#### ○ **Attributes:**

- ExpenseID (Primary Key)
- Amount
- ExpenseType
- DateIncurred

### **4. Customer:**

#### ○ **Attributes:**

- CustomerID (Primary Key)
- CustomerName
- CustomerEmail
- Location

### **5. InternationalSalesReport:**

#### ○ **Attributes:**

- ReportID (Primary Key)
- SKU (Foreign Key to Product)
- QuantitySold
- SalePrice
- SaleChannel
- Country
- SaleDate

## Relationships:

- **Product** to **Sales**: One product can appear in many sales (1-to-many relationship).
- **Product** to **InternationalSalesReport**: One product can appear in many international sales reports (1-to-many relationship).
- **Customer** to **Sales**: One customer can make many purchases (1-to-many relationship).

## Diagram Structure:

- The **Product** entity is central, as both **Sales** and **InternationalSalesReport** tables are linked to it via the **SKU**.
- **Sales** and **InternationalSalesReport** will also be related to different attributes such as the sale date, price, and quantity sold.
- **Customer** is linked to **Sales** through the **CustomerID**, and each customer can make multiple sales.
- **Expense** is a standalone entity used for cost analysis and does not directly relate to the other entities, but it is essential for financial reporting.

## Visual Representation (in words):

1. **Product** → **Sales**
  - One-to-many: Each product can appear in multiple sales records.
2. **Product** → **InternationalSalesReport**
  - One-to-many: Each product can appear in multiple international sales.
3. **Customer** → **Sales**
  - One-to-many: Each customer can make multiple sales.
4. **Sales** → **InternationalSalesReport**
  - Related by similar attributes such as **QuantitySold** and **SalePrice** but tracking different sales channels (local vs. international).