Team number: Team 1

Team members: Katy Ashley (kxa220036), Collin Best (cjb170630), Mahrusa Billah (mxb210062), Ruolan Liu (rxl200022), Chris Lopez (cxl200049)

Task A

1. Table: Category

    ● Primary Key: **CategoryID**

    ● Functional Dependencies: CategoryID → CategoryName

    ● CategoryID uniquely determines CategoryName. No partial or transitive dependencies exist, so it is in 3NF.

2. Table: Customer

    ● Primary Key: **CustomerID**

    ● Functional Dependencies: CustomerID → FName, MInit, LName, Email, PhoneNumber, Address

    ● CustomerID is the unique primary key and it determines all other non-key attributes. No partial or transitive dependencies exist, so it is in 3NF.

3. Table: Employee

    ● Primary Key: **EmployeeID**

    ● Functional Dependencies: EmployeeID → FName, MInit, LName, Title, Email, PhoneNumber

    ● EmployeeID is the unique primary key and it determines all other non-key attributes. No partial or transitive dependencies exist, so it is in 3NF.

4. Table: Invoice

    ● Primary Key: **InvoiceID**

    ● Functional Dependencies: InvoiceID → OrderID

- InvoiceID determines OrderID. No partial or transitive dependencies exist, so it is in 3NF.

5. Table: Item

   - Primary Key: **ItemID**

   - Functional Dependencies: ItemID → ProductID, UnitQuantity, PPU, AvailableStock

   - ItemID is the primary key and uniquely determines all other non-key attributes. No partial or transitive dependencies exist, so it is in 3NF.

6. Table: Itemized_Receipt

   - Primary Key: **(InvoiceID, ItemID)** (Composite Primary Key)

   - Functional Dependencies: (InvoiceID, ItemID) → ItemQuantity

   - The composite primary key (InvoiceID, ItemID) determines ItemQuantity. No partial or transitive dependencies exist, so it is in 3NF.

7. Table: Order

   - Primary Key: **OrderID**

   - Functional Dependencies: OrderID → CustomerID, FulfilledBy, DeliveryAddress, OrderedOn, DeliveryEstimate, OrderStatus, OrderTotal

   - OrderID is the primary key and uniquely determines all non-key attributes. No partial or transitive dependencies exist, so it is in 3NF.

8. Table: Product

   - Primary Key: **ProductID**

   - Functional Dependencies: ProductID → CategoryID, ProductName, ProductDesc, UnitMeasurement

   - ProductID is the primary key and it uniquely determines all non-key attributes. No partial or transitive dependencies exist, so it is in 3NF.