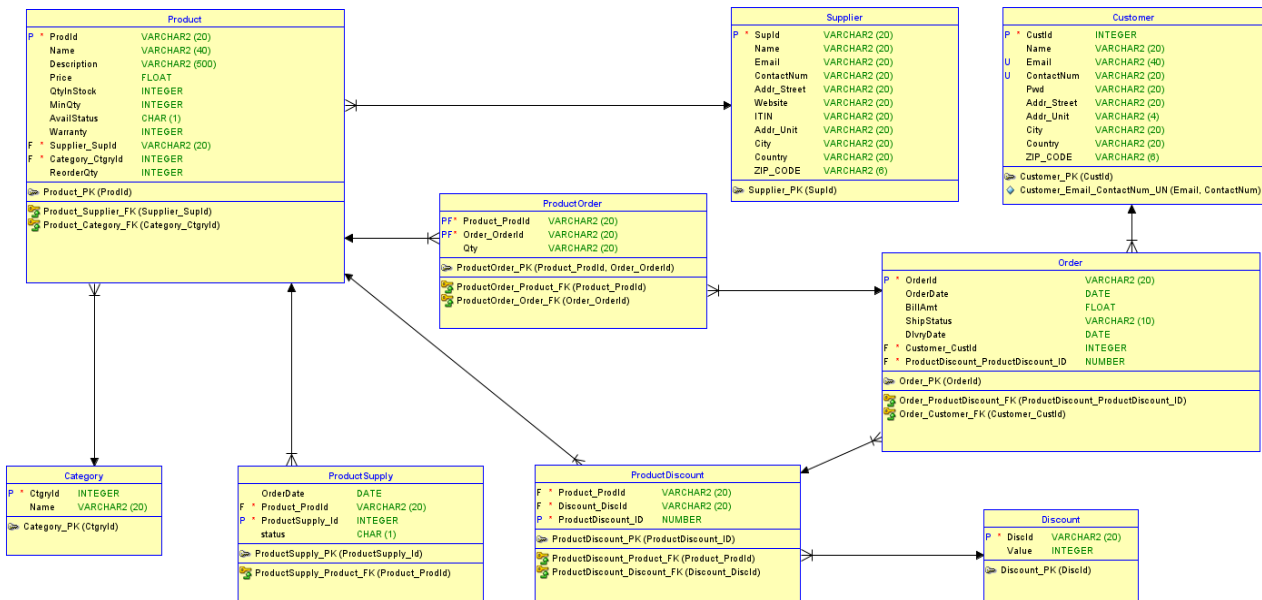# DAMG 6210 PROJECT- PHASE 2

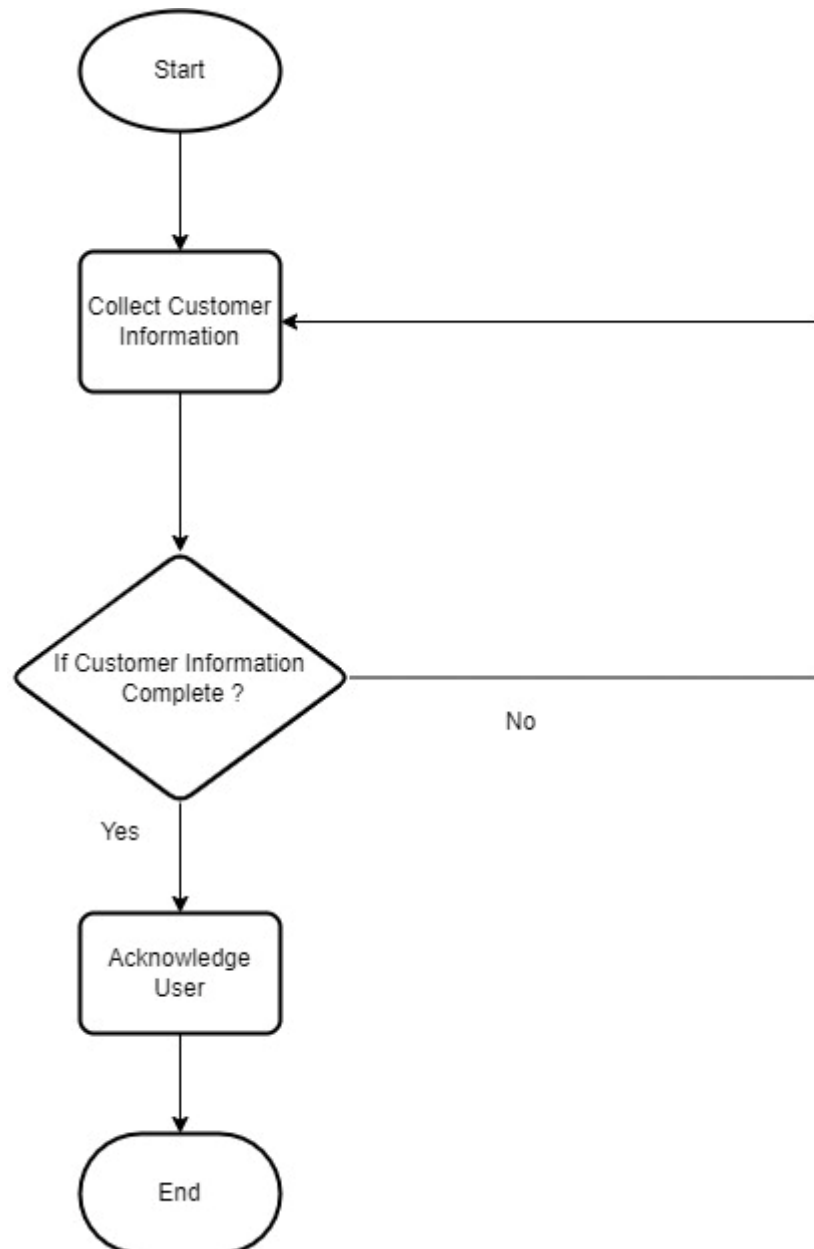**TEAM: RELATIONAL NINJAS**

## 1) REVISED ERD

2) Business Rules

- **ProductDiscount**: Only one discount code can be applied for an order, which again is applied for one product

- **Category**: A product must belong to only one category

- **ProductOrder**: A customer cannot place bulk orders, he is entitled to order a product up to a specific quantity.

- **Product Reorder:** A constant number of quantities is only ordered every time from the supplier. Calculated at the time when the product is created (ReorderQty = QtyInStock – MinQty)

- **Supplier:** The supplier never runs out of stock, which implies products ordered from the ImsAdmin will always reflect the Product table in an increase of quantity.

- **Order:** An order placed cannot be cancelled, Instead the customer can edit the order as per his requirement

3) DFD (Data Flow Diagrams) for each module

   o   **Module 1 - Customer on-boarding**

```
                    ┌───────────┐
                    │   Start   │
                    └───────────┘
                          │
                          ▼
                 ┌─────────────────┐
                 │ Collect Customer │◄──────────────┐
                 │   Information    │               │
                 └─────────────────┘               │
                          │                         │
                          ▼                         │
                    ◇───────────◇                   │
                   ╱ If Customer  ╲─────────────────┘
                   ╲ Information   ╱       No
                    ╲  Complete ? ╱
                    ◇───────────◇
                          │
                         Yes
                          │
                          ▼
                 ┌─────────────────┐
                 │   Acknowledge   │
                 │      User       │
                 └─────────────────┘
                          │
                          ▼
                    ┌───────────┐
                    │    End    │
                    └───────────┘
```

o **Module 2 - Supplier on-boarding**
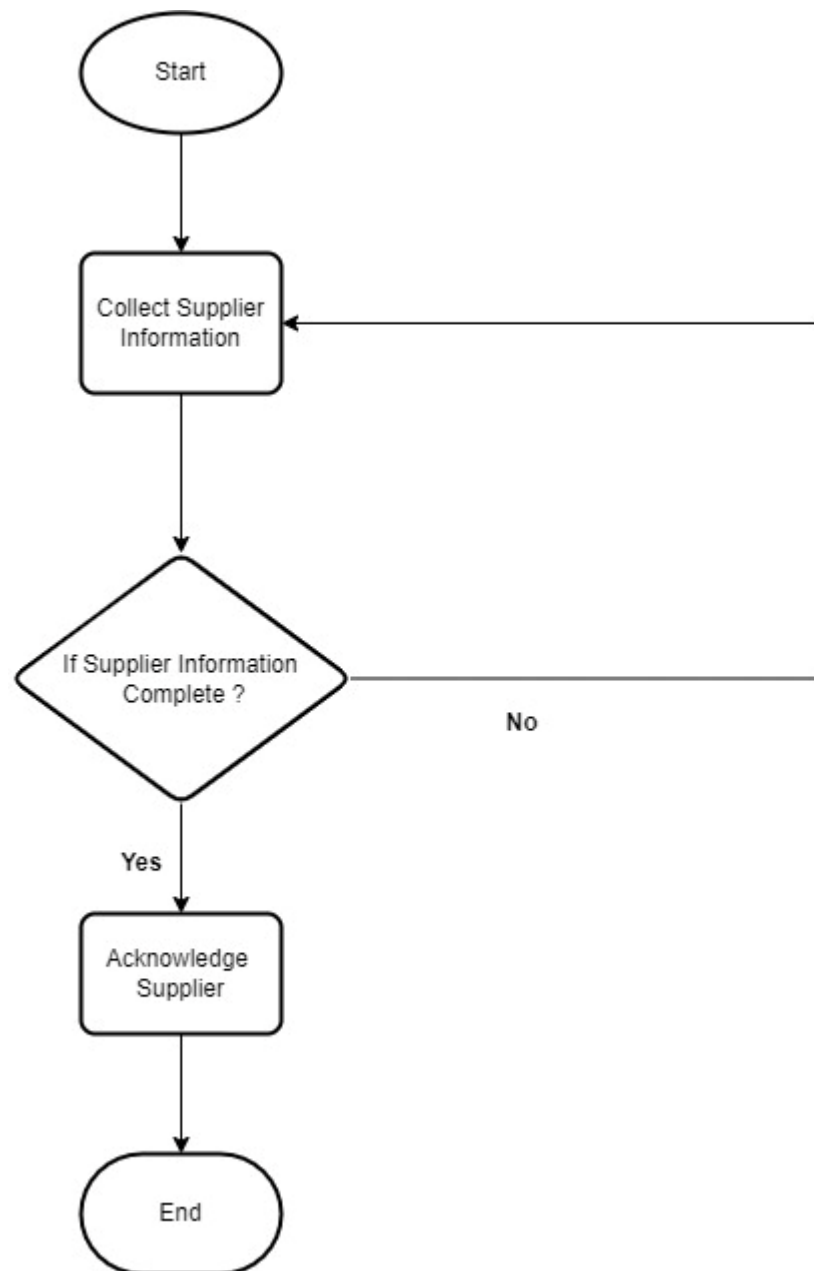
o **Module 3 - Placing an Order**

```
                    ┌─────────────┐
                   (    Start      )
                    └──────┬──────┘
                           │
                           ▼
                  ┌──────────────────┐
                  │ Customer Places  │
                  │     Order        │
                  └────────┬─────────┘
                           │
                           ▼
                      ◇─────────◇
                    Check product and          No
                     it's Availibility  ──────────────┐
                      ◇─────────◇                     │
                           │                          │
                       Yes │                          ▼
                           │                ┌──────────────────┐
                  ┌────────────────┐        │ Notify Custumer  │
                  │ Generate order │        │"Product is not   │
                  └────────┬───────┘        │   available"     │
                           │                └────────┬─────────┘
                           ▼                         │
                    ┌─────────────┐                  │
                   (    End       )◄─────────────────┘
                    └─────────────┘
```
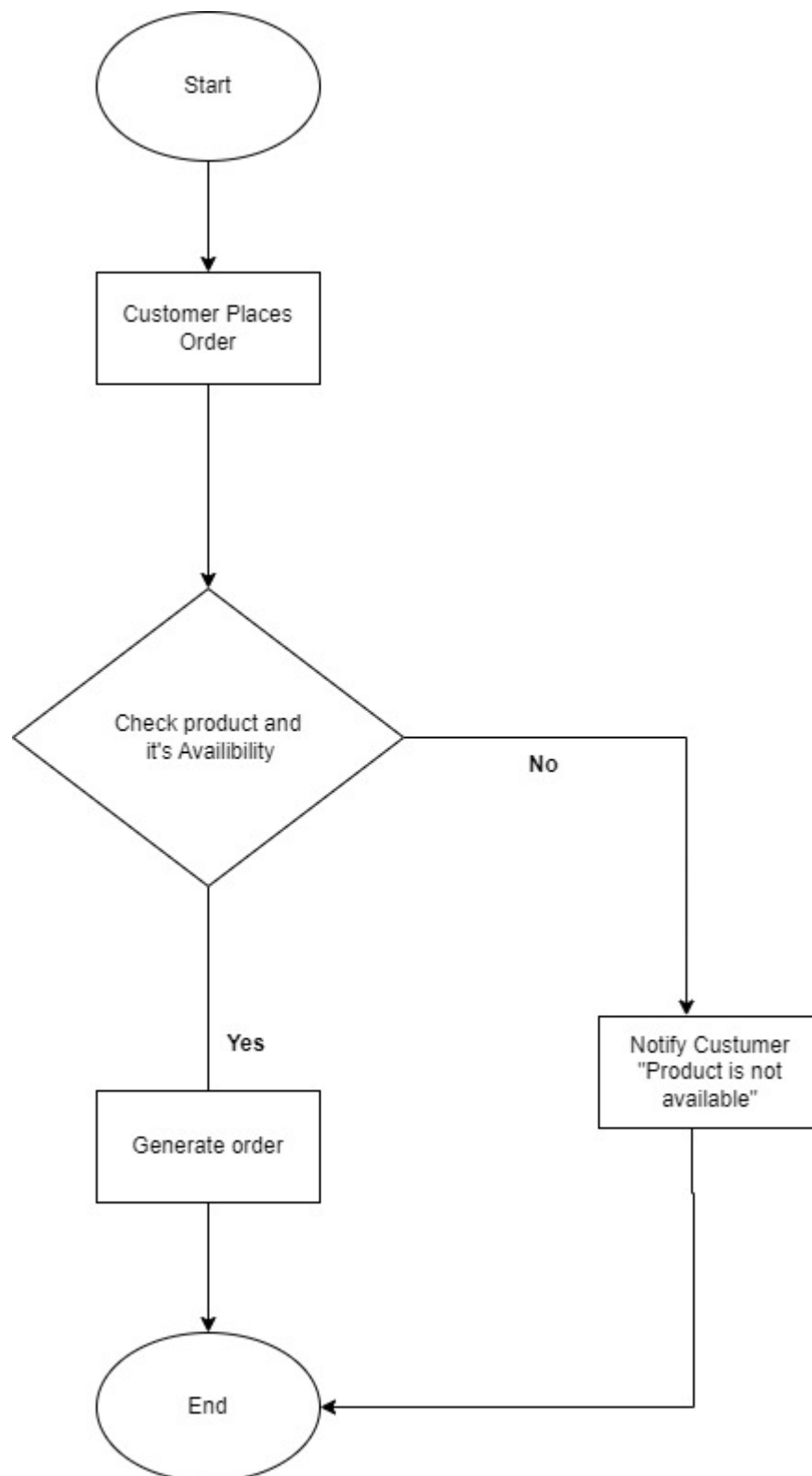
o   **Module 4 - Updating an Order**
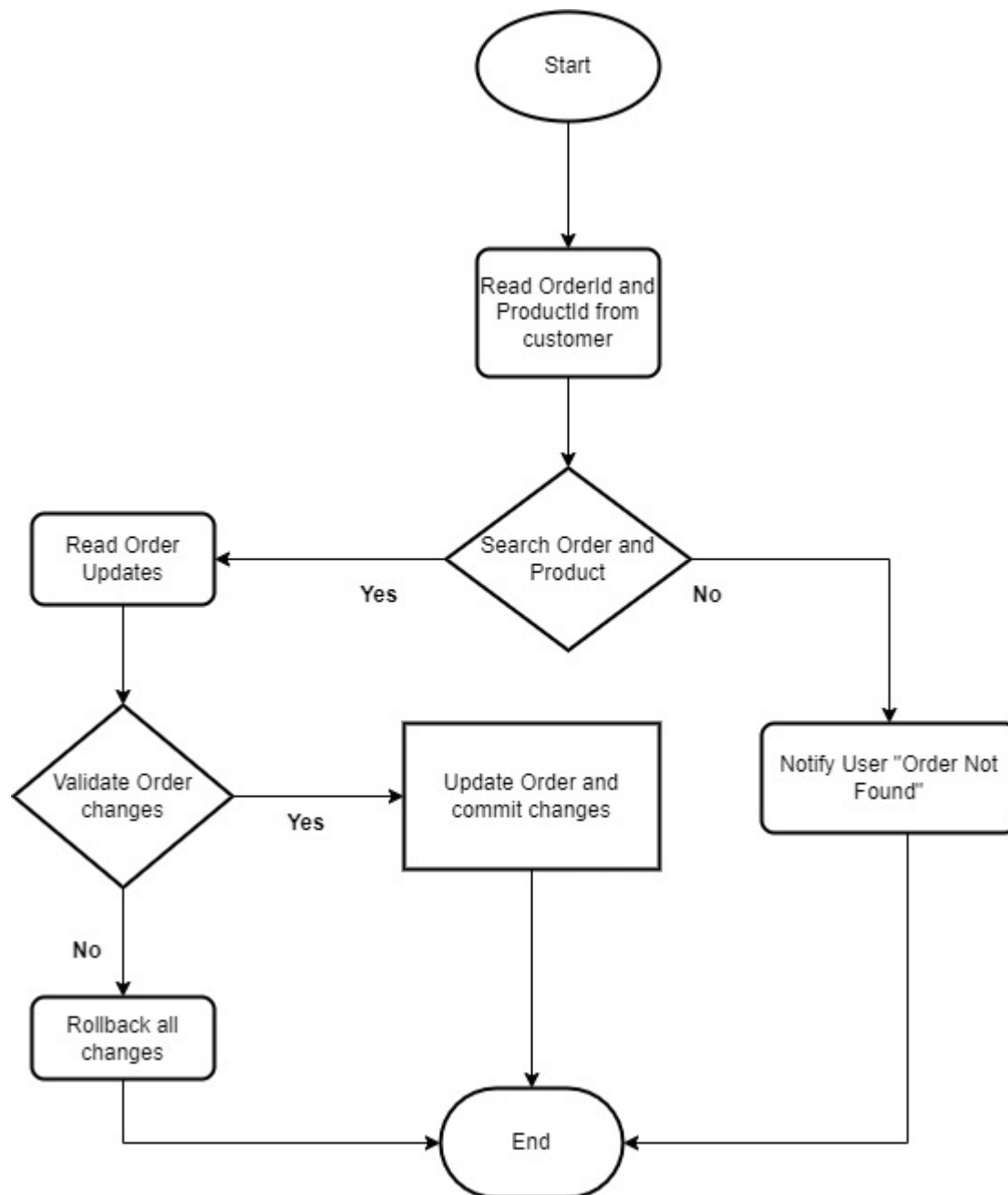
o **Module 5 - Re-ordering the inventory**

```
                        ┌─────────────┐
                        │    Start     │
                        └──────┬──────┘
                               │
                               ▼
                        ┌─────────────┐
                        │ Review Inventory │
                        └──────┬──────┘
                               │
                               ▼
                          ◇─────────◇
                         ╱           ╲        No      ┌──────────────────┐
                        ◇ Is QuantityInStock ◇───────▶│ Notify Imsadmin No │
                        ◇ less than MinQuantity? ◇     │ Restock Required    │
                         ╲           ╱               └─────────┬────────┘
                          ◇─────────◇                          │
                               │ Yes                           │
                               ▼                               │
                        ┌─────────────┐                       │
                        │ Place order to the │                │
                        │    Supplier      │                  │
                        └──────┬──────┘                       │
                               │                               │
                               ▼                               │
                        ┌─────────────┐                       │
                        │     End      │◀──────────────────────┘
                        └─────────────┘
```

Start

Review Inventory

Is QuantityInStock less than MinQuantity ?

No

Notify Imsadmin No Restock Required

Yes

Place order to the Supplier

End
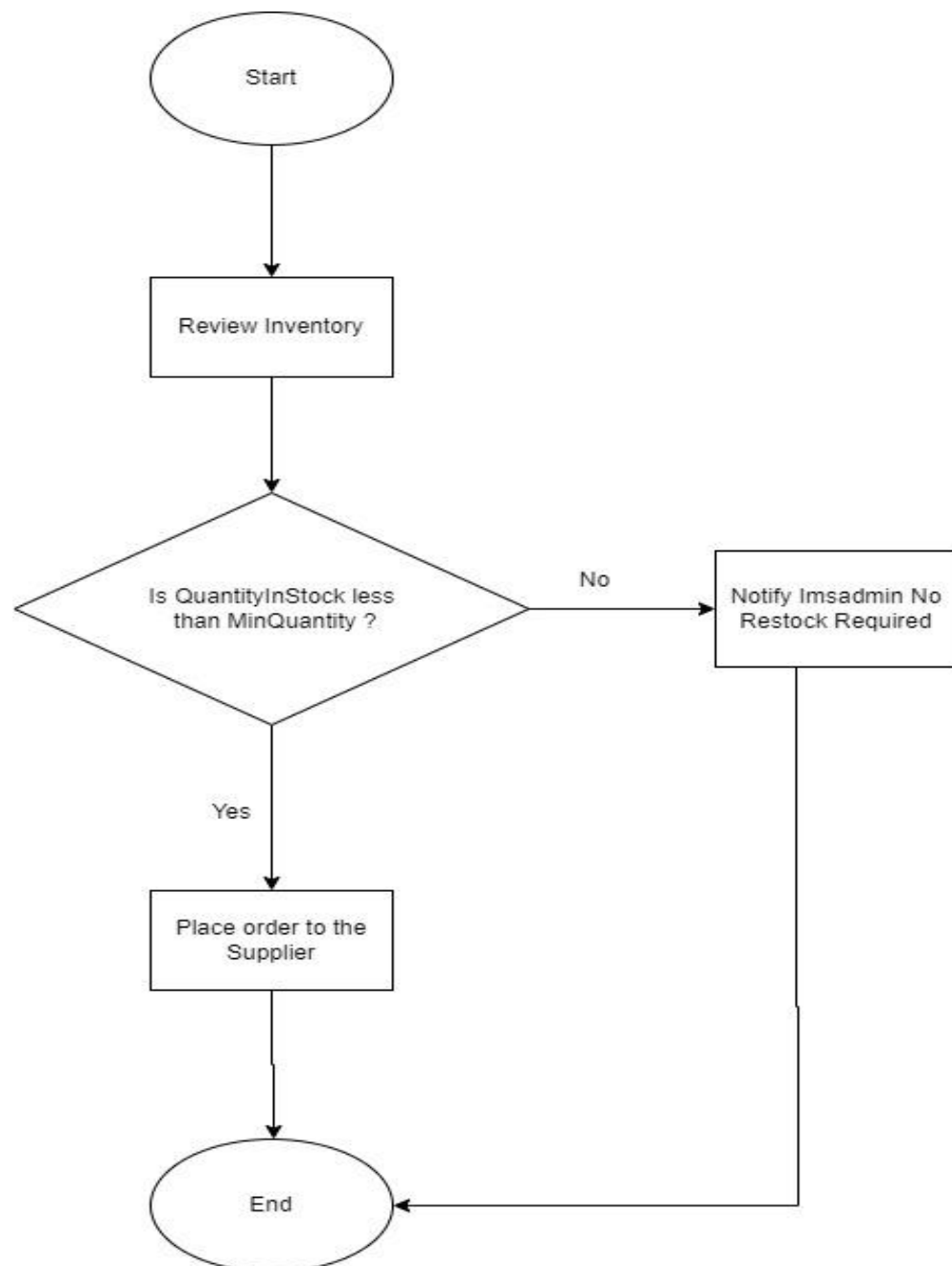
o **Module 6 – Refill the order**

Start

Get Refill Status from
ProductSupply Entity

If status is
Not Refilled

Yes

No

Supplier updates
status to Refilled

Admin updates the quantity
QtyInStock = QtyInStock +
ReorderLvl

End
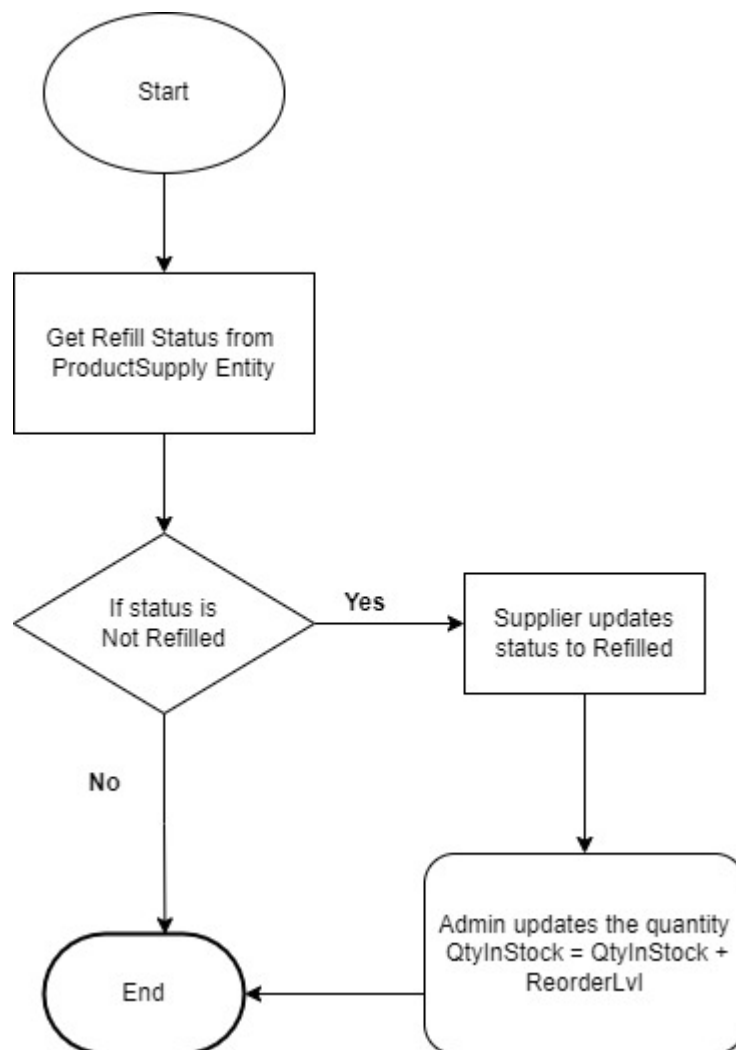
o **Module 7 - Customer Delivery Status**

Start

Get Order details
from the order table

Check if the shipper has
delivered the order or not

yes

No

Notify Customer
Order Delivered

Notify customer order
in Transit

End
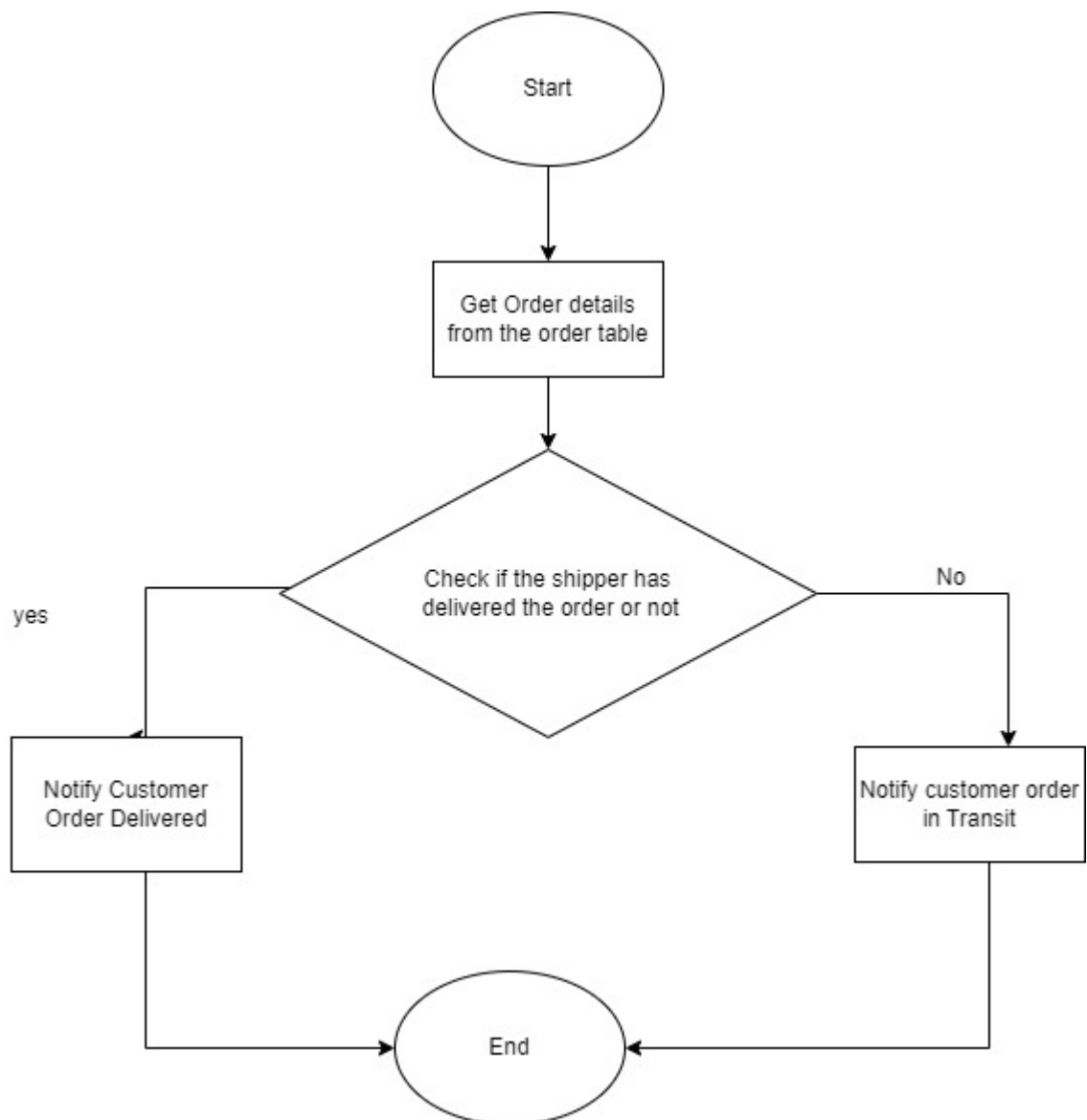
4) Security

Roles

User Name: ImsAdmin
Role: ImsRole
Permission: SELECT, INSERT, UPDATE, DELETE, DROP, CREATE, ALTER
Tables: All Entities

User Name: Customer
Role: CustRole

Permission1: SELECT, INSERT, UPDATE
Tables: Customer, ProductOrder

Permission2: SELECT
Tables: Products, ProductDiscount

User Name: Supplier
Role: SuppRole

Permission1: SELECT, INSERT, UPDATE
Tables: Supplier

Permission2: SELECT, UPDATE
Tables: ProductSupply

User Name: LogisticAdmin
Role: LogRole
Permission: SELECT, UPDATE
Tables: Order