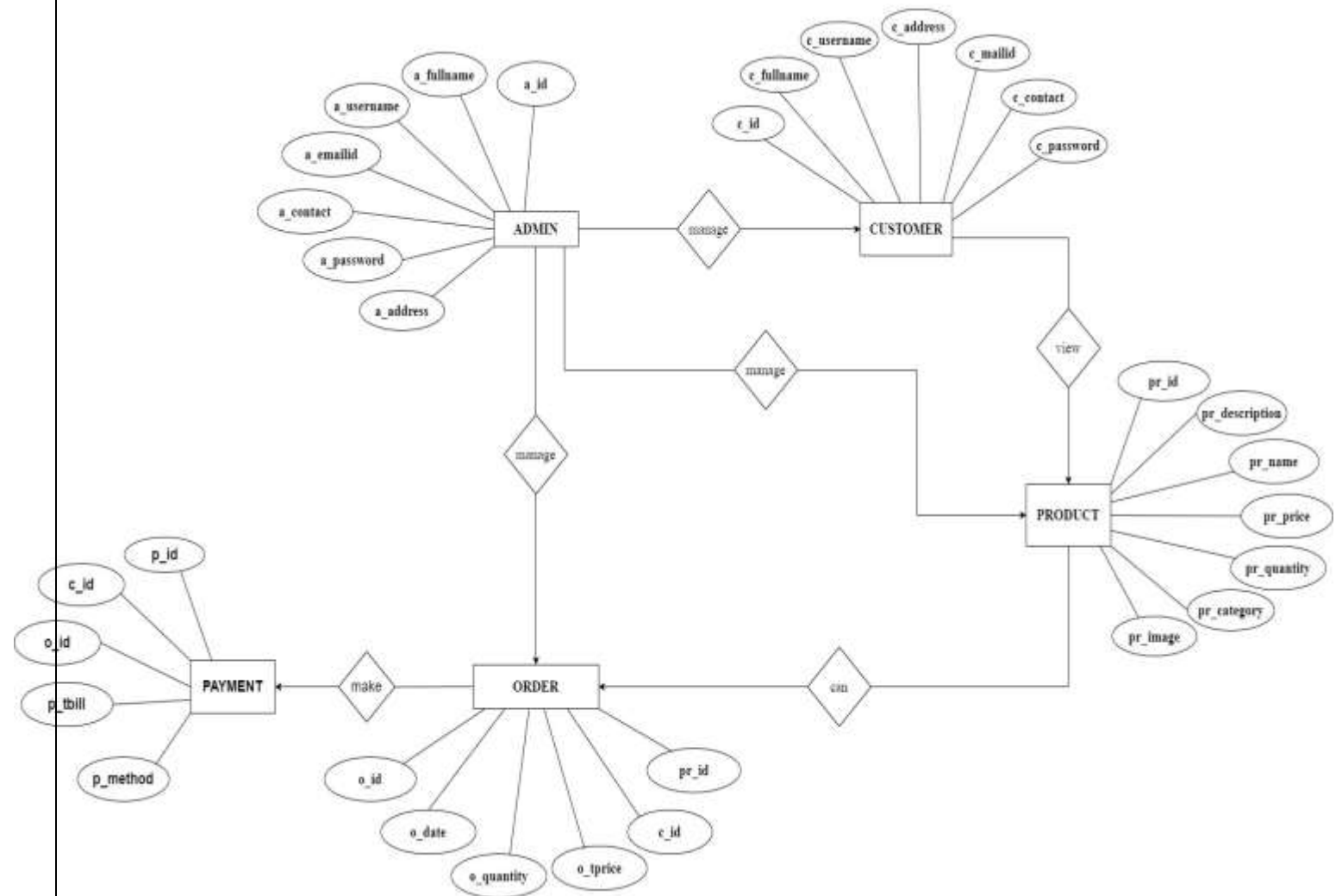# UML Diagrams


# Title :- CerealSphere


Name :- Pooja Kothawade


MCA-II      Div :- C
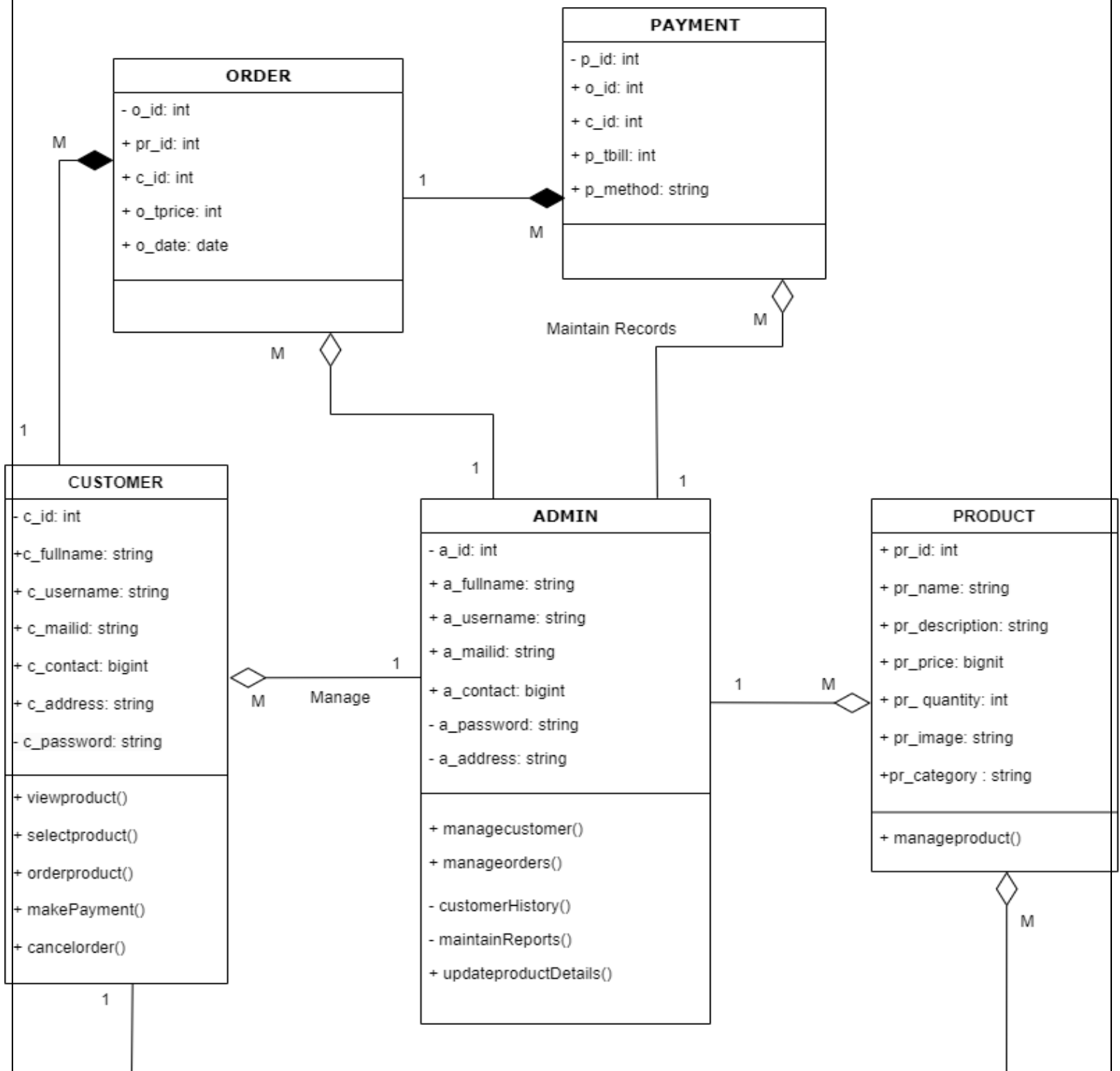
Roll no.  :- 22332

# CHAPTER 3: ANALYSIS AND DESIGN

## 3.1 Entity Relationship Diagram (ERD):
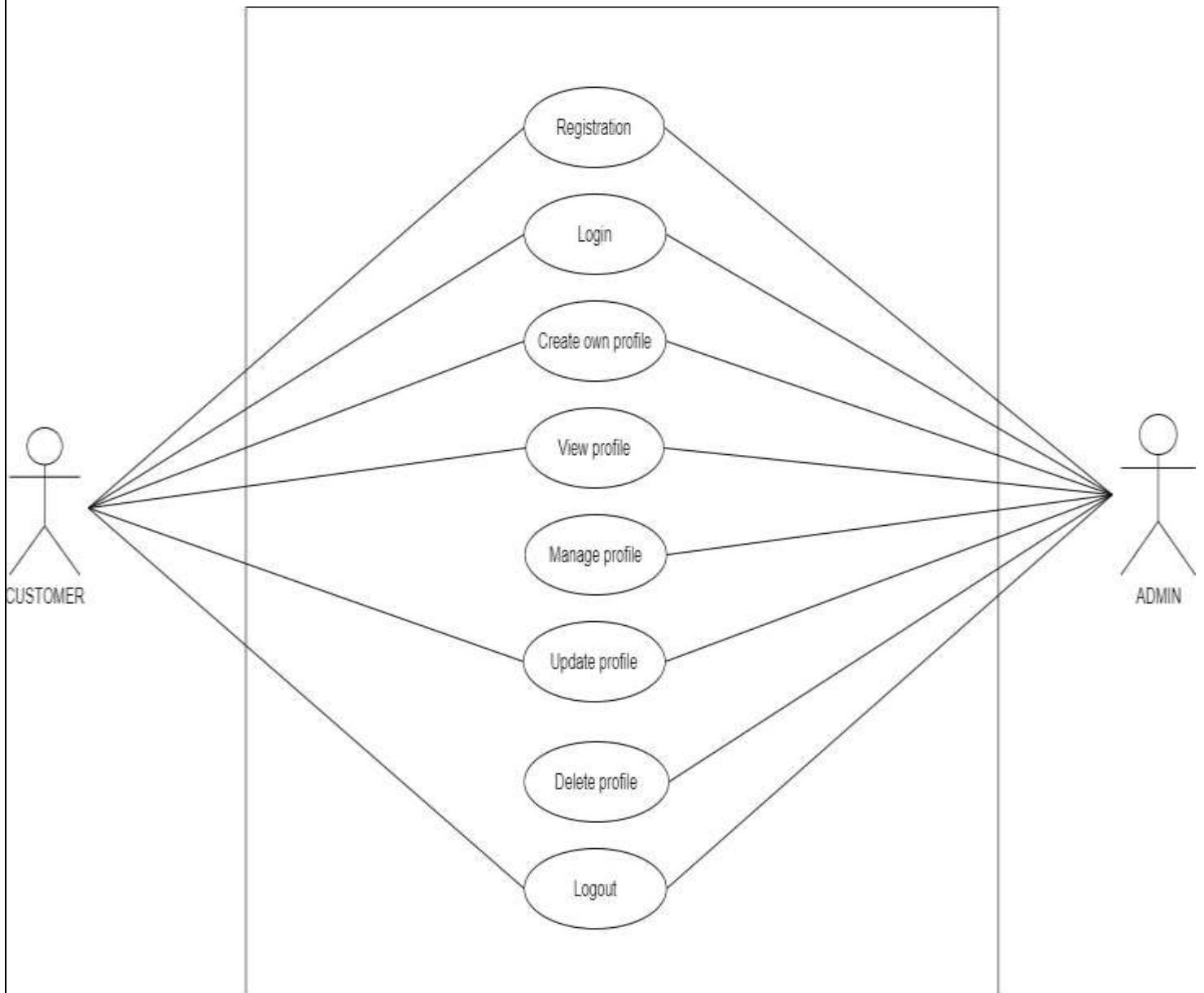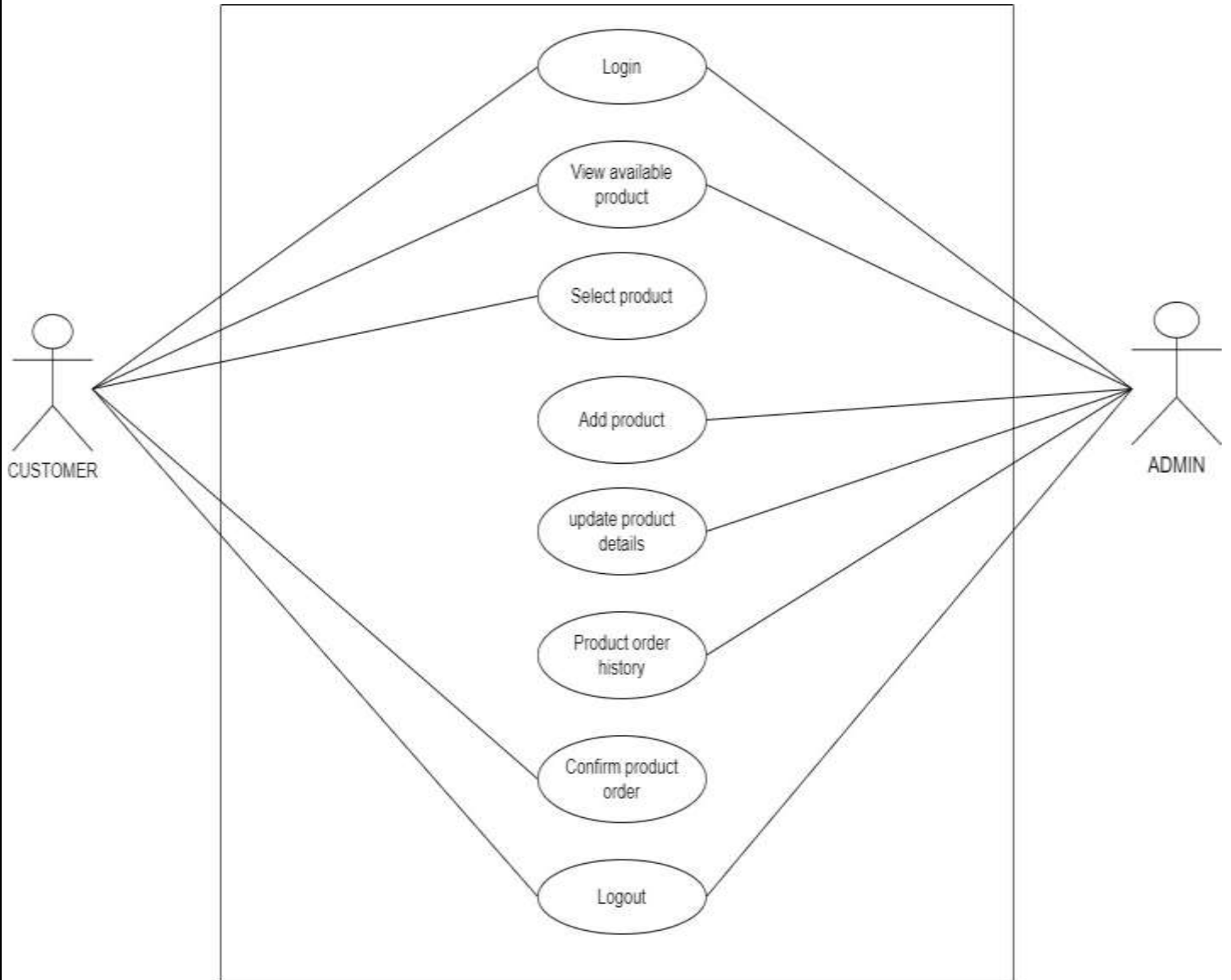
## 3.2    Class Diagram:

**PAYMENT**

- p_id: int
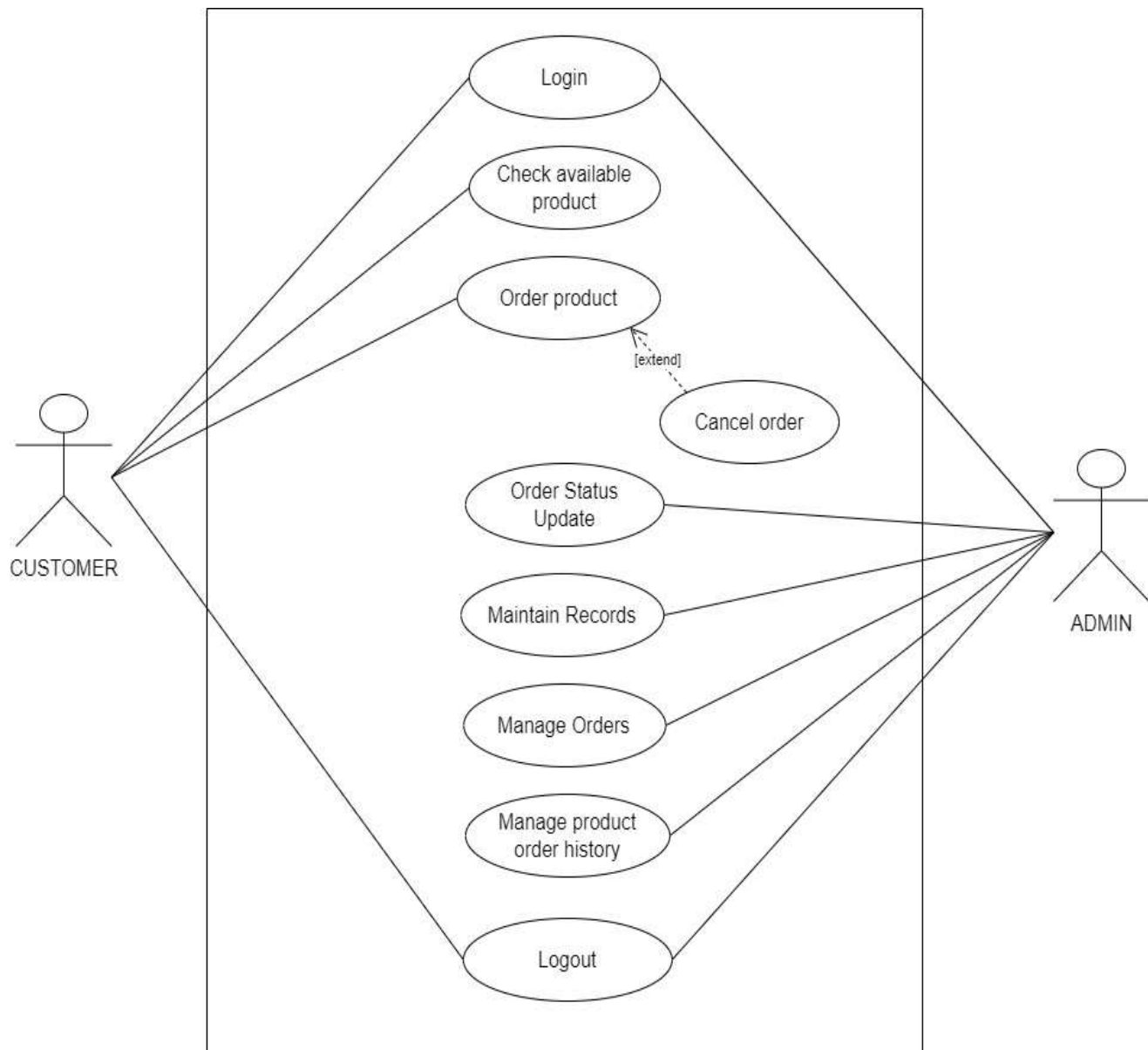+ o_id: int
+ c_id: int
+ p_tbill: int
+ p_method: string

**ORDER**

- o_id: int
+ pr_id: int
+ c_id: int
+ o_tprice: int
+ o_date: date

M

1

M

Maintain Records

M

M

M

1

1

**CUSTOMER**

- c_id: int
+c_fullname: string
+ c_username: string
+ c_mailid: string
+ c_contact: bigint
+ c_address: string
- c_password: string

+ viewproduct()
+ selectproduct()
+ orderproduct()
+ makePayment()
+ cancelorder()

M    Manage    1

**ADMIN**

- a_id: int
+ a_fullname: string
+ a_username: string
+ a_mailid: string
+ a_contact: bigint
- a_password: string
- a_address: string

+ managecustomer()
+ manageorders()
- customerHistory()
- maintainReports()
+ updateproductDetails()

1    M

**PRODUCT**

+ pr_id: int
+ pr_name: string
+ pr_description: string
+ pr_price: bignit
+ pr_ quantity: int
+ pr_image: string
+pr_category : string

+ manageproduct()

M

1

## 3.3   Use Case Diagrams:

**USE CASE DIAGRAM FOR PROFILE**



CUSTOMER

Registration

Login

Create own profile

View profile

Manage profile
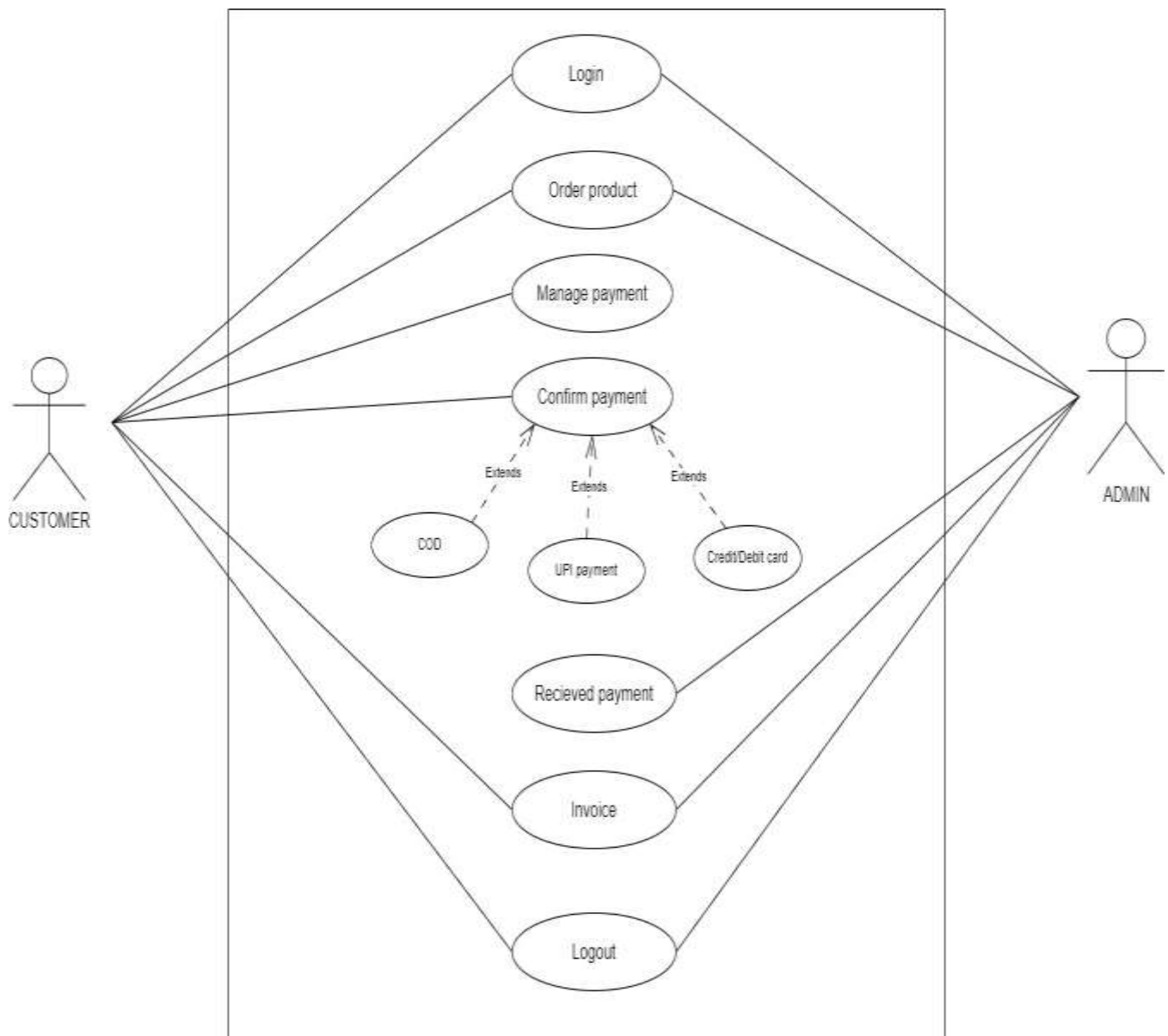
Update profile

Delete profile

Logout

ADMIN

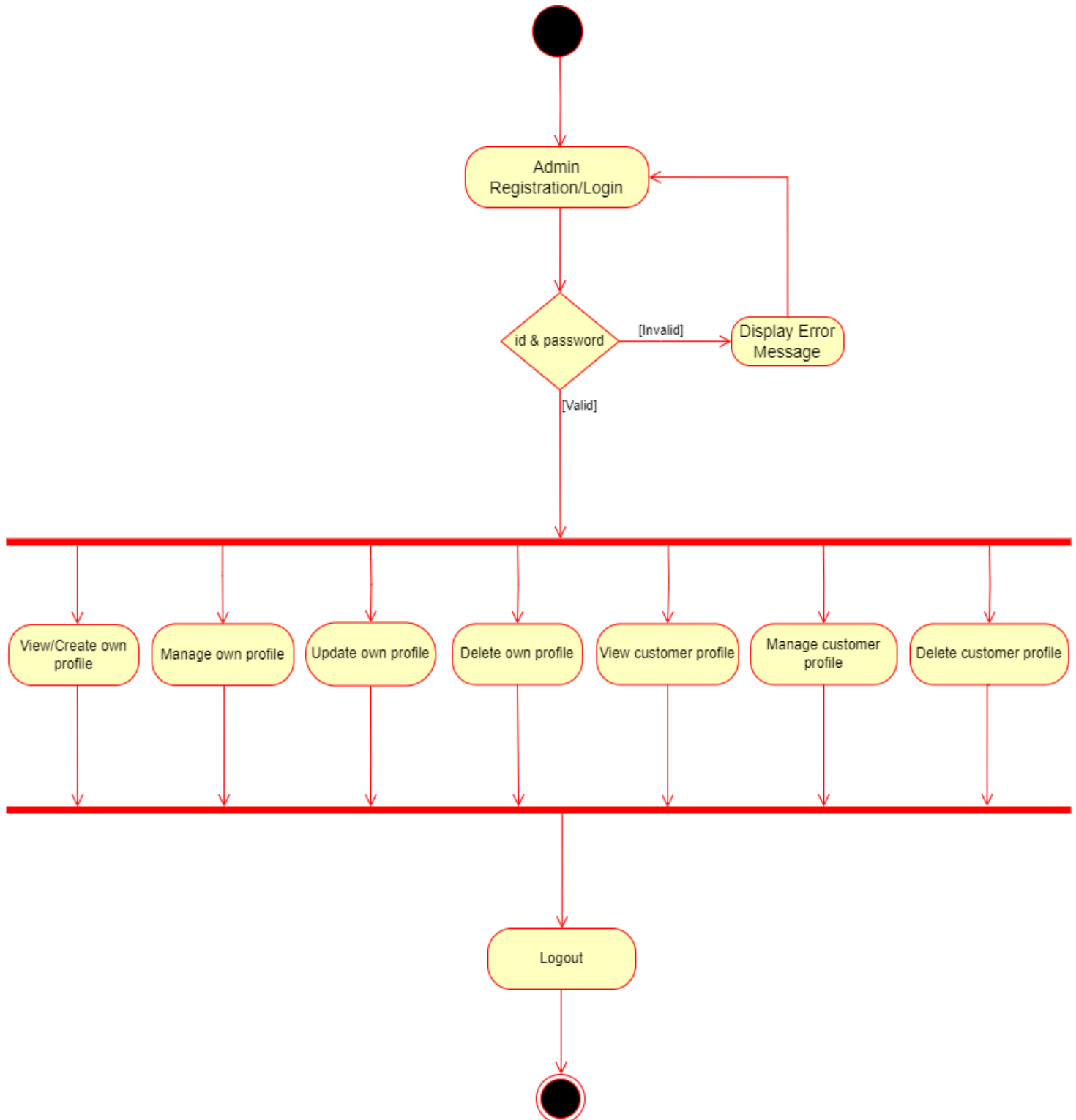**USE CASE DIAGRAM FOR PRODUCT**

**USE CASE DIAGRAM FOR ORDER**
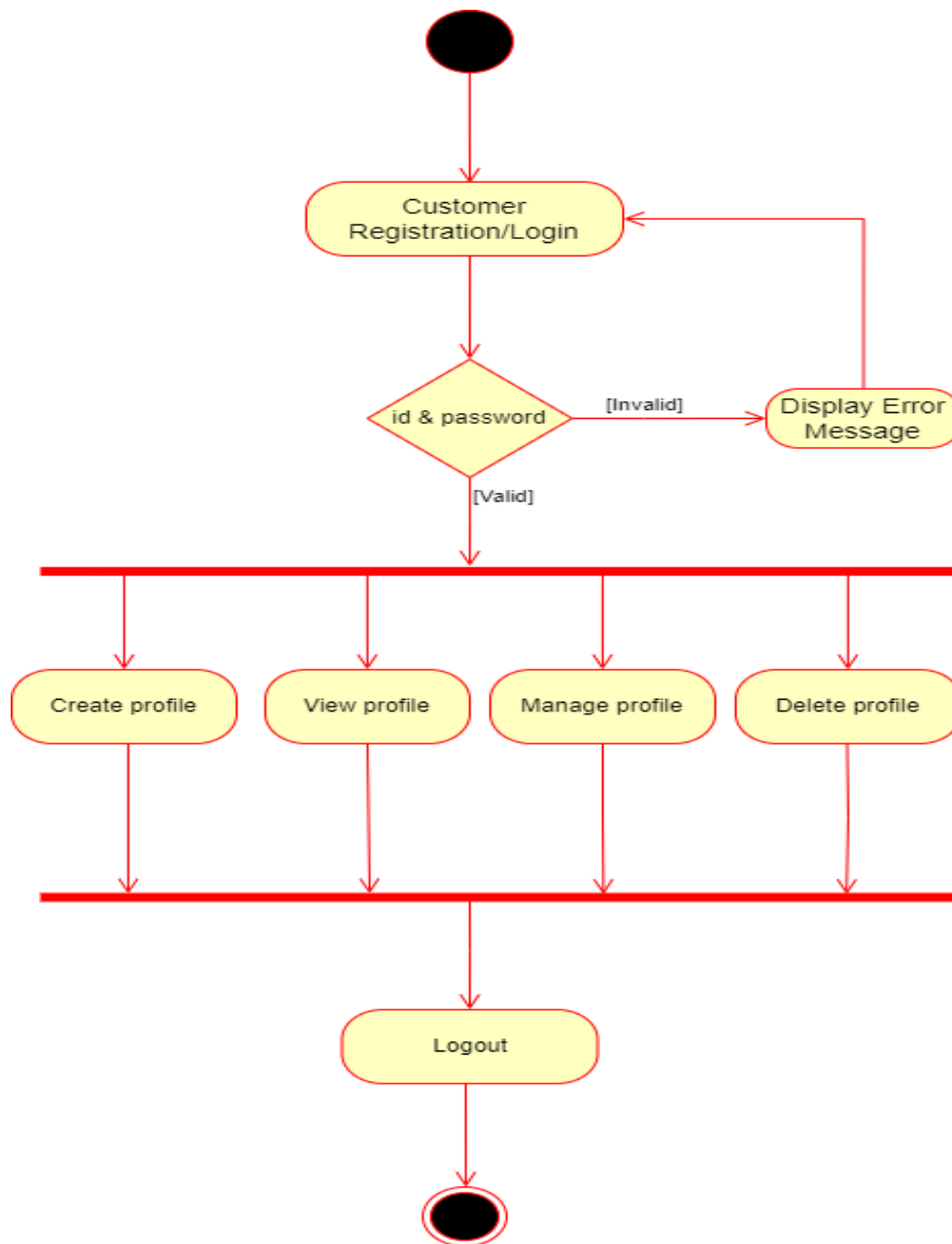
**USE CASE DIAGRAM FOR PAYMENT**

## 3.4    Activity Diagram:

**ACTIVITY DIAGRAM FOR ADMIN PROFILE**

**ACTIVITY DIAGRAM FOR CUSTOMER PROFILE**

**ACTIVITY DIAGRAM FOR PRODUCT**

Registration/Login

id & password

[Invalid] → Display Error Message

[Valid]

view product list

search product listed

add product

update product details

remove product

manage product reports

Logout

**ACTIVITY DIAGRAM FOR ORDER**

```
                    ●
                    │
                    ▼
             ┌──────────────┐
             │ Registration │◄──────────┐
             │   /Login     │           │
             └──────┬───────┘           │
                    │                   │
                    ▼                   │
                  ◇───◇      [Invalid]  │
             ◇ id & password ◇──────►┌──────────┐
                  ◇───◇              │ Display  │
                    │               │  Error   │
                [Valid]             │ Message  │
                    │               └──────────┘
                    ▼
    ══════════════════════════════════════════
      │      │       │        │       │      │
      ▼      ▼       ▼        ▼       ▼      ▼
  ┌──────┐┌──────┐┌───────┐┌───────┐┌──────┐┌──────┐
  │ view ││request││modify ││confirm││display││order │
  │product││product││product││product││order ││report│
  │ list ││avail. ││ order ││ order ││status││      │
  └──────┘└──────┘└───────┘└───────┘└──────┘└──────┘
      │      │       │        │       │      │
    ══════════════════════════════════════════
                    │
                    ▼
               ┌────────┐
               │ Logout │
               └────────┘
                    │
                    ▼
                    ◉
```

view product list | request product available | modify product order | confirm product order | display order status | order report
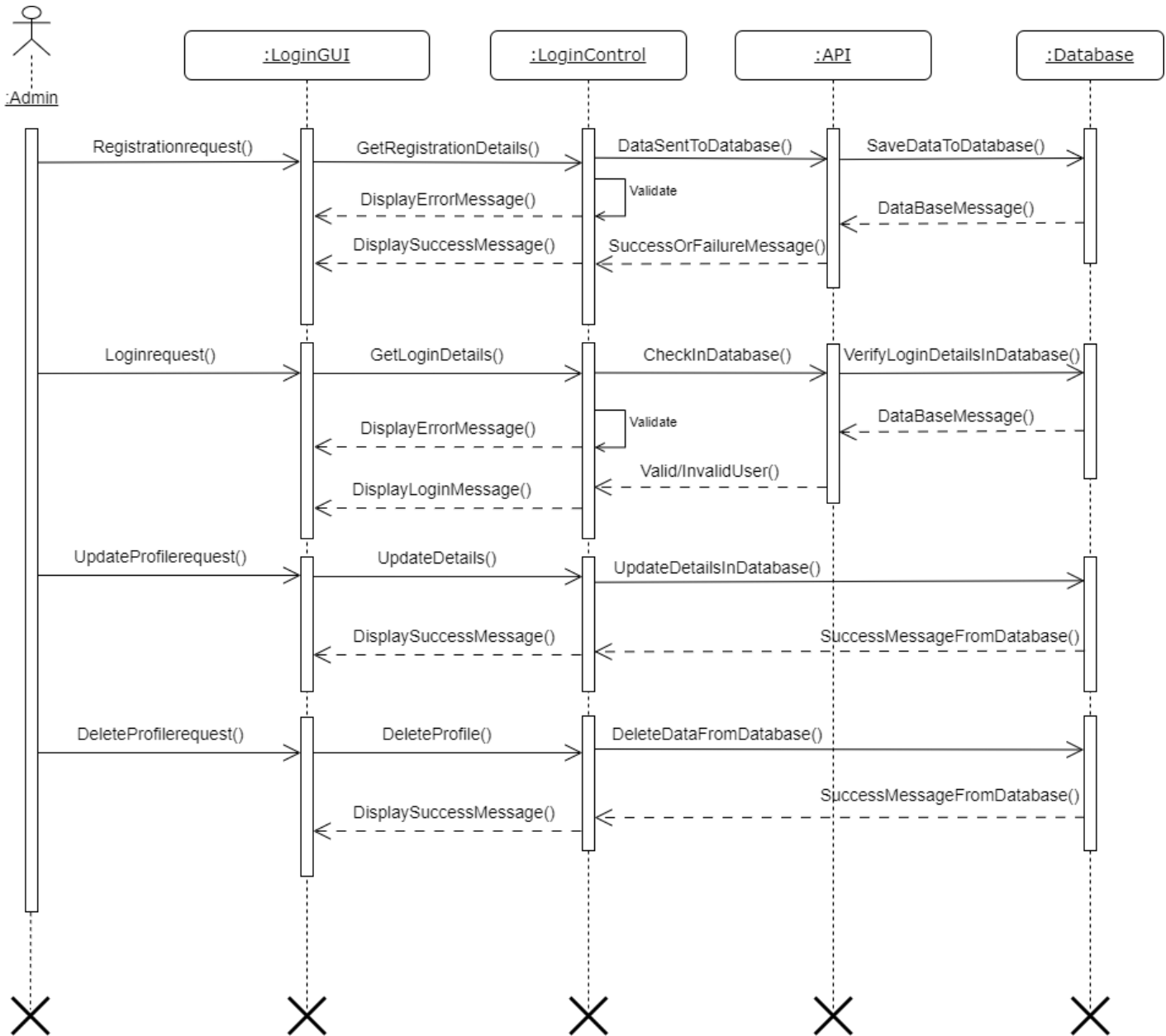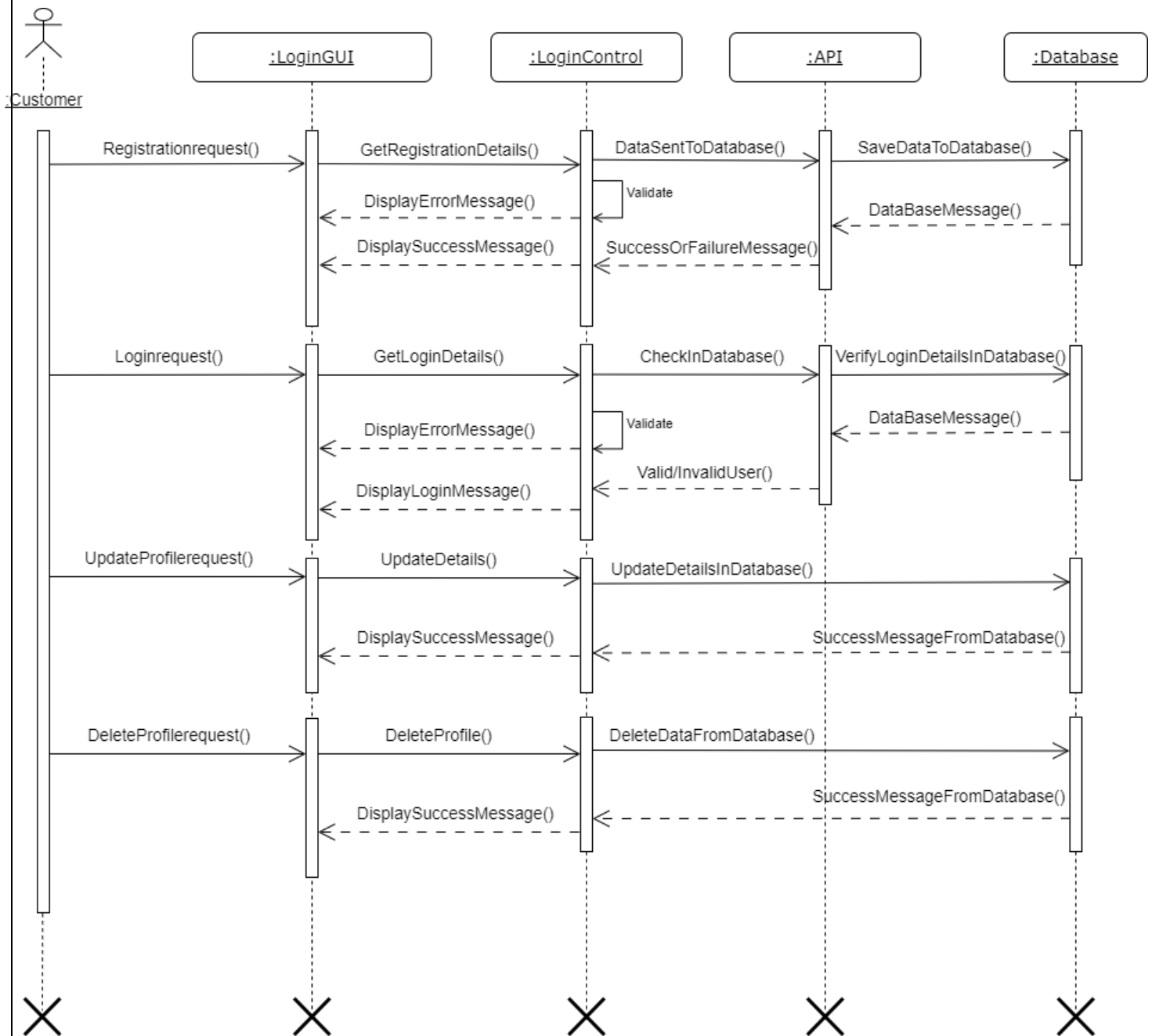
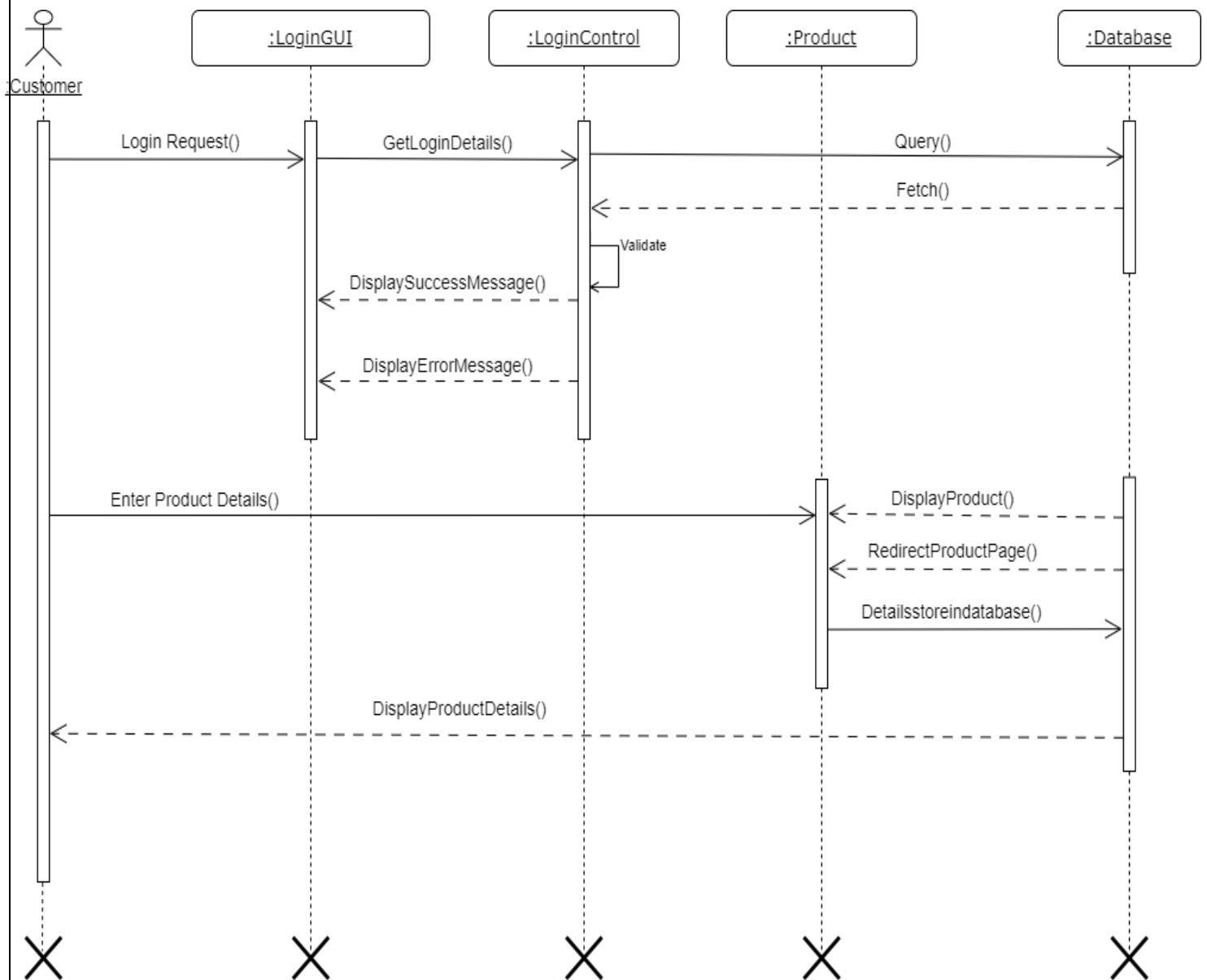**ACTIVITY DIAGRAM FOR PAYMENT**

# 3.5   Sequence Diagram
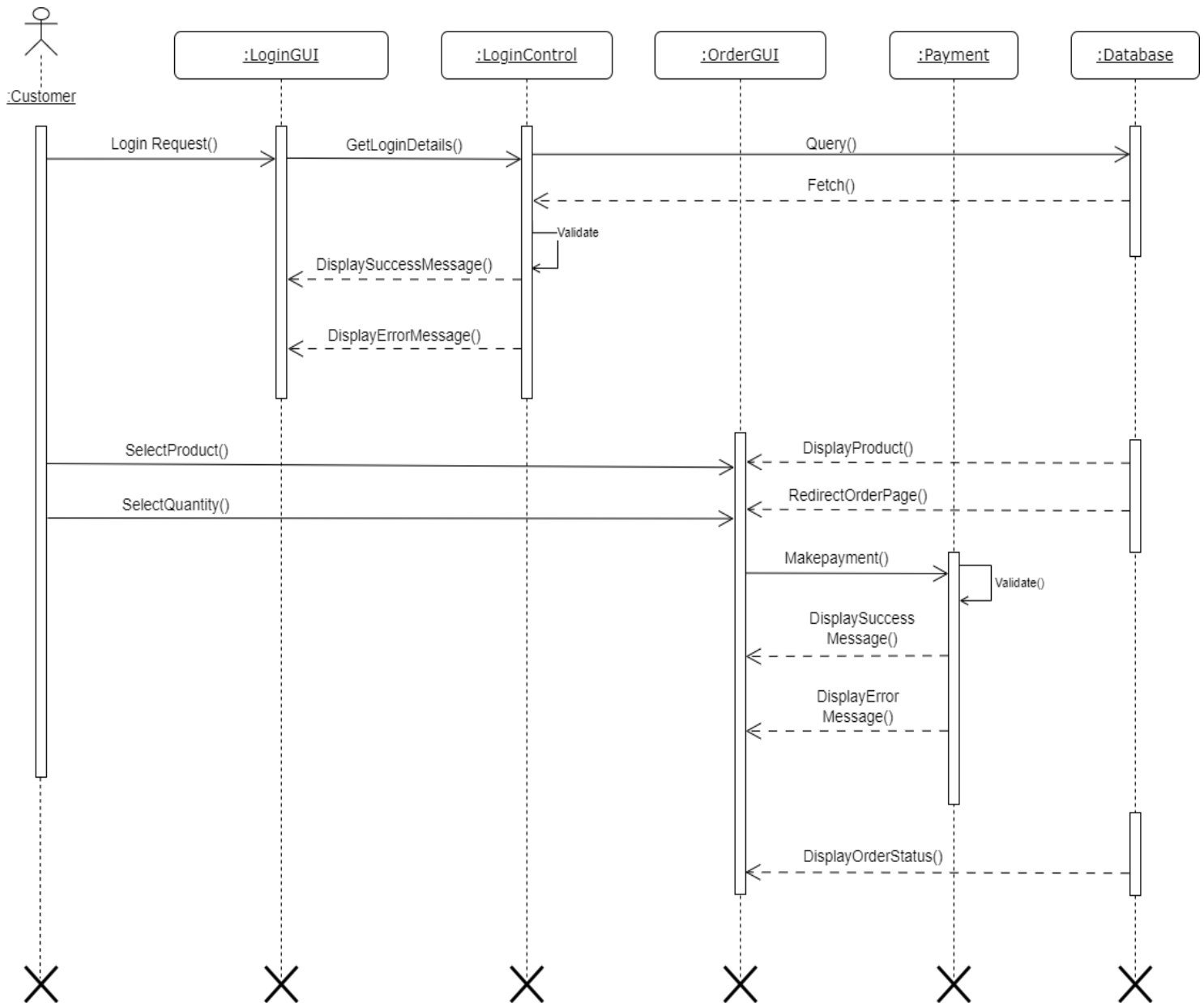
**SEQUENCE DIAGRAM OF ADMIN PROFILE**

**SEQUENCE DIAGRAM OF CUSTOMER PROFILE**

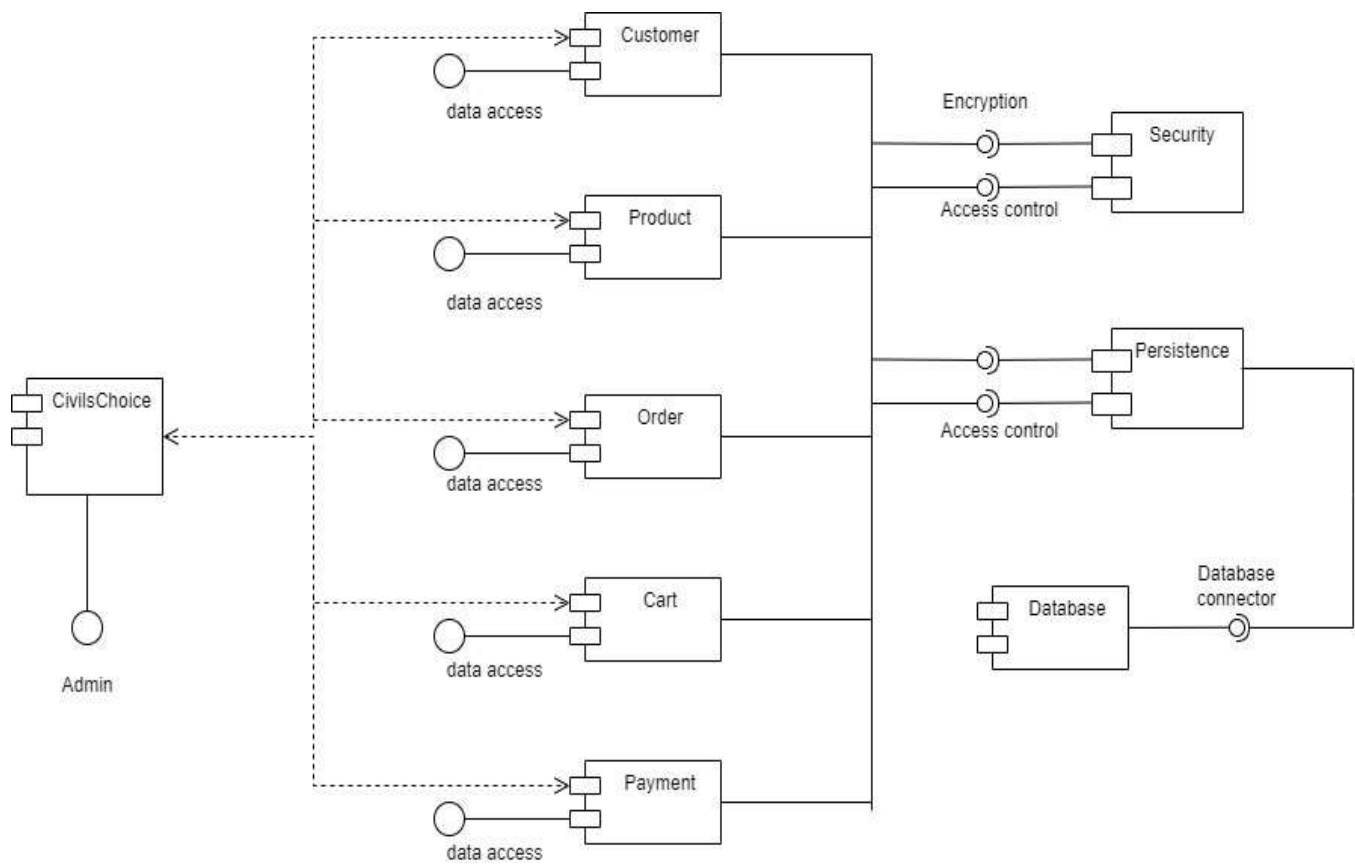**SEQUENCE DIAGRAM OF PRODUCT**

**SEQUENCE DIAGRAM OF PAYMENT AND ORDER**

## 3.6  Component Diagram

## 3.7    Table Design

**TABLE Admin**

| Sr.no | Field name | Field size | Data type | Description | constraint |
|-------|-----------|-----------|-----------|-------------|------------|
| 1 | a_id | 10 | int | Admin id | Primary key |
| 2 | a_fullname | 30 | varchar | Admin fullname | Not null |
| 3 | a_password | 12 | varchar | Admin password | Not null |
| 4 | a_contact | 14 | int | Admin contact | Not null |
| 5 | a_address | 50 | varchar | Admin address | Not null |
| 6 | a_mailid | 30 | varchar | Admin email | Not null |
| 7 | a_username | 16 | varchar | Admin username | Not null |

**TABLE Cutsomer**

| Sr.no | Field name | Field size | Data type | Description | constraint |
|-------|-----------|-----------|-----------|-------------|------------|
| 1 | c_id | 10 | int | Customer id | Primary key |
| 2 | c_mailid | 30 | varchar | Customer email | Default null |
| 3 | c_password | 12 | varchar | Customer password | Not null |
| 4 | c_name | 30 | varchar | Customer name | Default null |
| 5 | c_contact | 14 | int | Customer contact | Default null |
| 6 | c_address | 50 | varchar | Address of Customer | Default null |
| 7 | c_username | 16 | varchar | Username of customer | Default null |

**TABLE Order**

| Sr.no | Field name | Field size | Data type | Description | constraint |
|-------|-----------|-----------|-----------|-------------|------------|
| 1 | o_id | 10 | int | Order id | Primary key |
| 2 | pr_id | 10 | int | Product id | Foreign key |
| 3 | o_quantity | 10 | int | Quantity of product | Default null |
| 4 | o_tprice | 10 | float | Price of product | Default null |
| 5 | o_date | 10 | varchar | Name of product | Default null |
| 6 | c_id | 10 | int | Customer id | Foreign key |

**TABLE Product**

| Sr.no | Field name | Field size | Data type | Description | constraint |
|-------|-----------|-----------|-----------|-------------|------------|
| 1 | pr_id | 10 | int | Product id | Primary key |
| 2 | pr_name | 20 | varchar | Product name | Not null |
| 3 | pr_description | 30 | varchar | Category of product | Not null |
| 4 | pr_price | 10 | float | Price of product | Not null |
| 5 | pr_image | 100 | varbinary | Image of product | Not null |
| 6 | pr_quantity | 30 | varchar | Product description | Not null |
| 7 | pr_category | 10 | varchar | Category of product | Not null |

## TABLE Payment

| Sr.no | Field name | Field size | Data type | Description | constraint |
|-------|------------|------------|-----------|-------------|------------|
| 1 | p_id | 10 | int | Price of product | Primary key |
| 2 | c_id | 10 | int | Customer id | Foreign key |
| 3 | o_id | 10 | int | Order id | Foreign key |
| 4 | p_method | 10 | int | Payment method | Not null |
| 5 | p_tbill | 10 | float | Total bill of product order | Not null |
| 6 | pr_id | 10 | int | Product id | Foregin key |

## 3.8  Data Dictionary

| Field name | Datatype | Size | Constraints | Description | Table Name |
|------------|----------|------|-------------|-------------|------------|
| a_id | int | 10 | Primary key | Represent admin Id | Admin |
| a_fullname | varchar | 40 | Not null | Represent admin full name | Admin |
| a_password | varchar | 12 | Not null | Represent admin login password | Admin |
| a_contact | varchar | 14 | Not null | Represent admin phone no | Admin |
| a_address | varchar | 50 | Not null | Represent admin address | Admin |
| a_mailid | varchar | 30 | Not null | Represent admin email id | Admin |
| c_id | int | 10 | Primary key | Represent Customer id | Customer, Order, Payment |
| c_fullname | varchar | 40 | Default null | Represent Customer name | Customer |
| c_mailid | varchar | 30 | Not null | Represent Customer email id | Customer |
| c_password | varchar | 12 | Not null | Represent Customer password | Customer |
| c_contact | int | 14 | Default null | Represent Customer contact | Customer |
| c_address | varchar | 50 | Default null | Represent Customer address | Customer |
| o_id | int | 10 | Primary key | Represent order id | Order, payment |
| o_quantity | int | 10 | Default null | Represent order quantity | Order |
| o_date | int | 10 | Primary key | Represent order date | Order |

| o_tprice | float | 10 | Default null | Represent order price | Order |
|---|---|---|---|---|---|
| pr_id | int | 10 | Primary key | Represent product id | Order, payment, product |
| pr_name | varchar | 30 | Not null | Represent product name | Product |
| pr_description | varchar | 30 | Not null | Represent product description | Product |
| pr_price | float | 10 | Not null | Represent product price | Product |
| pr_quantity | varchar | 30 | Not null | Represent product quantity | Product |
| pr_image | varbinary | 100 | Not null | Represent product image | Product |
| p_id | int | 10 | Not null | Represent payment id | Payment |
| p_tbill | float | 10 | Not null | Represent payment total bill | Payment |
| p_method | varchar | 10 | Not null | Represent payment method | Payment |
| a_username | varchar | 16 | Not null | Represent admin login name | Admin |
| c_username | varchar | 16 | Not null | Represent customer login name | Customer |
| pr_category | varchar | 10 | Not null | Represent category of product | Product |