#### Project Title: - Shopping Mall Database Management System.

### Entities: -

Product, Inventory.

Shop, Shop Employee, Shop Manager, Accountant, Sales Person, Shop Cleaning Crew.

Mall Employee, Mall Manager, Advertisement Officer, Event Organizer, Security Guard, Security Chief, Mall Cleaning Crew.

Customer, Customer Online Account, Customer Shopping History, Bill.

Parking Lot, Parked Vehicles, Parking Bill.

# Attributes of the various entities: -

Product: - Product ID, Product Name, Type, Shop No., Quantity, Manufacturer, Manufacturing Date, Expiry Date.

Inventory: - Inventory No., Type, Maximum Capacity, Current Occupancy, Product ID, Product Name.

Shop: - Shop No., Name, Floor No., Type.

Shop Employee: - Employee ID, Name, Age, Contacts, Address, Shop No., Year of Joining, Year of Leaving.

Shop Manager: - Manager ID, Name.

Accountant: - ID, Name.

Sales Person: - ID, Name.

Shop Cleaning Crew: - ID, Name.

Mall Employee: - Employee ID, Name, Age, Contacts, Address, Year of Joining, Year of Leaving.

Mall Manager: - Manager ID, Name.

Advertisement Officer: - ID, Name.

Event Organizer: - ID, Name.

Security Guard: - ID, Name.

Security Chief: - ID, Name.

Cleaning Crew: - ID, Name.

Customer: - Customer No., Name, Contacts, Address.

Customer Online Account: - Name, Username, Password, Mobile No.

Customer Shopping History: - Name, Product ID, Product Name, Purchase Date, Payment Mode.

Bill: - Bill No., Customer Name, Amount, Payment Mode, Payment Date, Payment Time.

Parking Lot: - Parking Lot No., Type, Maximum Capacity, Current Occupancy.

Parked Vehicle: - Vehicle No., Customer Name, Time of Entry, Time of Exit.

Parking Bill: - Bill No., Customer Name, Vehicle No., Amount, Payment Mode, Payment Date, Payment Time.

# Entities' Relation: -

[Product] is in an [Inventory].

[Product] is in a [Shop].

[Shop] has [Shop Employee].

[Shop Employee] are [Shop Manager, Accountant, Sales Person, Shop Cleaning Crew].

[Shop] gets [Customer].

[Mall Employee] are [Mall Manager, Advertisement Officer, Event Organizer, Security Guard, Security Chief, Mall Cleaning Crew].

[Customer] has [Customer Online Account].

[Customer] has [Customer Shopping History].

[Customer] purchases [Product].

[Customer] pays [Bill].

[Customer] has [Parked Vehicles].

[Parking Lot] has [Parking Vehicles].

[Customer] pays [Parking Bill].

#### Relational Database Design: -**PRODUCT** Shop **Product Product** Type Manufacturer Manufacturing Expiry <u>ID</u> Name No. Date Date **INVENTORY** Product ID Inventory Type Product Maximum Current No. Name Capacity Capacity **SHOP** Shop Name Floor Type No. No. **SHOP EMPLOYEE SHOP MANAGER Employee** Name Age Contacts Address Shop Year Year of Manager Name <u>ID</u> <u>ID</u> No. of Leaving Joining **ACCOUNTANT** SALES PERSON SHOP CLEANING CREW <u>ID</u> Name <u>ID</u> Name ID Name **EMPLOYEE** MALL MANAGER **Employee** Name Age Address Contacts Year Year of Manager Name Leaving of <u>ID</u> <u>ID</u> Joining **ADVERTISEMENT OFFICER EVENT ORGANIZER SECURITY GUARD** Name <u>ID</u> <u>ID</u> Name <u>ID</u> Name **SECURITY CHIEF**

<u>ID</u>

Name

## **CUSTOMER CUSTOMER ONLINE ACCOUNT** Name <u>Username</u> Password Mobile Customer Name Contacts Address No. No. **CUSTOMER SHOPPING HISTORY** Customer **Product** Product Purchase Payment Customer No. Name <u>ID</u> Name Date Mode **BILL** Bill No. Payment Payment Customer Customer Amount Payment No. Name Mode Date Time **PARKING LOT PARKED VEHICLES** Parking Lot Current Parking Type Maximum Customer **Vehicle** Time of Time Of No. Capacity Occupancy Name Lot No. No. Entry Exit **PARKING BILL** <u>Bill</u> Customer Vehicle Amount **Payment** Payment Payment No. Name No. Mode Date Time