**Gold Gym: Gym Management System**

**Business Problem:**

With the increase in awareness to stay fit and the health benefits that come with it, there has been a rise in gym subscriptions. With this growth in demand for fitness centers Gym franchises are expanding gym locations in each city which leads to the need for a centralized management. Legacy systems involve maintaining customer records locally and in a manually written file format. This is an arduous and financially intensive process.

**Entities:**

* Customer
* Utilities
* Supplier
* Order
* Product
* Employee
* Department
* Subscription
* Manufacturer
* Location

Customer, Order Relationship:

* A customer can place an order.
* An order is related to a product in a way that customers can place an order for a product in the gym.
* A product can have two subtypes:
  + Supplements: Supplements can be of different types, for example, protein tablets and protein powder, etc.
  + Meals: There will be meal plans recommended to the customer by the nutritionist and provided as a part of the product entity. Meals do not need to be bound to a nutritionist. A customer can also order meals as a part of the product.

Product, Order, Supplier Relationship:

* A supplier supplies the product when the customer places an order.
* A product can have attributes such as product name, product price, product type, product description etc.

Product and Nutritionist Relationship:

* A product can be recommended by the nutritionist to the customer.
* Recommends is an associative entity that has recommended quantity and rec reason, date as attributes.

Customer, Location and Subscription Relationship:

* A customer will have a subscription which will have a subscription ID.
* A subscription can have subscription type, for example, it can be silver, gold or premium membership and every membership type has different charges.
* A customer’s data will be deleted once the subscription ends.
* A customer can subscribe to any location.
* A location has state, area, city, street, zip code, building size as attributes.

Customer, Utilities and Manufacturer Relationship:

* A customer utilizes the utilities in the gym.
* The utilities are purchased from the manufacturer.
* Here purchases are an associative entity.

Utilities, Locker, Equipment set Relationship:

* Utilities can be of two types:
  + Locker
  + Equipment set
* A customer can use the above utilities, ie, locker, weights, and machines.
* An equipment set will have two subtypes:
  + Weights
  + Machines

Customer, Nutritionist and Trainer Relationship:

* Customer can or cannot take the services of a trainer.
* A customer can take the services of a nutritionist as well.
* A nutritionist can recommend products to the customer.
* A trainer will provide their training to the customer.

Employee and its relations:

* Employees have the relations with Department, Location, Staff, Trainer, and Nutritionist.
* They may or may not have a single supervisor who can be obtained by the foreign key supervisor ID which refers to the employee ID of the supervisor.

Customer and its relations:

* Customer has the relations with order, subscription, recommends, location, utilities, nutritionist and trainer.