**PART-1-Data Modelling Design**

**Data Requirements-Entities, Relationships, Attributes, Constraints, Mapping cardinalities.**

**Entities:**

1. Customer
2. Offline Customer
3. Online Customer
4. Member
5. Not Member
6. Login
7. Signup
8. Reservation
9. System User
10. System Admin
11. System Operator
12. Room
13. Room type (weak entity)
14. Hotel
15. Restaurant
16. Food
17. Food type (weak entity)
18. Veg
19. Non Veg
20. Services
21. Supervisor
22. Bill
23. Payment
24. Online
25. Offline
26. Cancellation
27. Duration (weak entity)
28. Feedback

**Relationships:**

1. Customer **books r**eservation
2. Member **gets** login
3. Not Member **gets** signup
4. Customer **reserves** room
5. Room **has** room type
6. Offline customer **handled by** system user
7. Online customer **managed by** system operator
8. Customer books reservation **in** hotel
9. Hotel **has** restaurant
10. Restaurant **has** food
11. Food **has** food type
12. Hotel **provides** services
13. Room **maintained by** supervisor
14. Restaurant **generates** bill
15. Bill **added to** payment
16. Payment **gets** cancellation
17. Cancellation **refunds** duration
18. Customer **pays** payment
19. Customer **makes** cancellation
20. Customer **gives** feedback
21. Customer **is a** online customer, offline customer (class hierarchy)
22. Online customer **is a** member , Not Member(class hierarchy)
23. Food **is a** Veg, Non veg (Class hierarchy)
24. System admin **is a** System operator, System user(class hierarchy)
25. Payment **is a** online , offline(class hierarchy)

**Attributes:**

1. **Customer**-cid, cname, cbb, age, phno., address
2. **Offline Customer**-id, name
3. **Online Customer**-id, name
4. **Member**-id
5. **Not Member**-id
6. **Login-**id, password
7. **Signup**-user id, password, email, name
8. **Reservation**-reservation id, cust id, type
9. **System User**-name, records
10. **System Admin**-id, password
11. **System Operator**-id, login
12. **Room**-room no.
13. **Room type**-delux, non delux, ac, non ac, room no.
14. **Hotel**-reg number, location, name, type
15. **Restaurant**-id, name, phno.
16. **Food-**bill no., order, table no.
17. **Food type**-Indian, Italian, Chinese
18. **Veg**-dal, paneer, aloo
19. **Non Veg**-chicken, mutton, fish, prawns
20. **Services**-swimming pool, spa, gym, pub
21. **Supervisor**-id, name, record
22. **Bill**-bill no., cid, cname
23. **Payment**-payment id, amount, cid
24. **Online**-gpay, netbanking, payment
25. **Offline**-cheque, card, cash
26. **Cancellation-**cancelid, cid, amount
27. **Duration-**date
28. **Feedback**-cid, name

**Descriptive attributes:**

1. **Reserves**-checkin, checkout
2. **Refunds-**time