

## ICS241: DBMS Assignment 2

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### Steps converting Requirements documents to pictorial ER Diagram:

#### 1. Entities:

- Since all **employees**, **customers** and **mall owners** have same kind of database, therefore they all extend person as an entity and inherits all its attributes.
- Employees are of two types: **shop owners**, **staff members**.
- Staff Members have certain types: **Cleaning**, **Security**, **Maintenance**, **Supervisors**, **Managers**, **Customer Care**.
- **Customer** entity also extends the person entity.
- Mall is an entity which has various **shops** and a **parking** entity.
- Every shop has certain number of **items** which further can have **offers**.
- Every customer has a **shopping cart** which contains items and have a **billing desk**.

#### 2. Attributes:

- **Person**: name {first name, middle name, last name}, address {house no, street no, area, landmark, city, state, pin code}, mobile number, email id, unique id.
- **Staff Member**: Apart from all attributes of a **person**, it has extra attributes: salary, time shift.
- **Mall** has mail id, mall name, owner name, address.
- **Parking** has Timing, fee, person, parking slot, parking id.
- **Shop** has shop id, shop name, owner name, and monthly fare.
- **Item** has Item id, price, quantity, name.
- **Shopping Cart** has items, quantity purchased, shopping cart Id, customer, total net price.
- **Offers** has offer description affecting net price of a product.
- **Customer care** has feedback form and customer experience form.
- **Billing Desk** has shop Id, customer Id, customer name, address, mobile phone, and net price.

#### 3. Relationships:

- Employee **works\_in** Mall.
- Mall **has** Parking.
- Shop Owner **manages** Shop.
- Shop **contains** Items.
- Items **have** Offers.
- Customer **pays\_through** Billing Desk.

- Customer **manages shopping** cart.
- Customer **do\_shoppingfrom** shop.
- Shopping Cart **contains** Items.
- Customer **visits** Mall.
- Mall Owner **manages** mall.
- Billing Desk **bills** shopping cart.