Project Plan
General E-Commerce

Purpose :- The primary purpose of a General E-commerce marketplace is to facilitate the buying and selling of a wide range of products and services over the internet. It serves as a digital platform connecting sellers and buyers, providing a seamless and convinient shopping experience.

Business Key Objects :-

- **Product Accessibility :-** Offers customer access to diverse products and services from various sellers, regardless of location.

- **Business Expansion :-** Enables businesses (small and large) to reach a global audience without the limitations of physical stores.

- **Convenient Transactions :-** Provides secure and efficient online payment systems and order management.

- **Customer Engagement :-** Enhances the shopping experience through product reviews, recommendations and personalized marketing.

- **Operational Efficiency:-**
Streamlines inventory, logistics and order fullfilment for sellers.

- **Cost-Effectiveness:-**
Reduces operational costs for businesses compared to traditional retail models.

In short, a general E-commerce platform bridges the gap between buyers and sellers, making commerce faster, more accessible, and more scalable.

Here's how you can answer these guiding questions step by step for an E-commerce marketplace.

1. E-commerce Solutions for Consumers and industries :-

Our marketplace aims to solve the problem of limited access to affordable and high quality eco-friendly products. Many consumers want to adopt a sustainable lifestyle but struggle to find trustworthy brands in one place. Our platform connects customers with verified sellers offering eco-friendly products, making sustainable shopping easy and convenient.

2- Who is your target audience?

Our target audience includes environmentally conscious consumers aged 18-45, primarily urban dwellers, who value sustainability and ethical shopping. This audience is tech-savy, prefers online shopping, and seeks products that align with their eco-friendly values.

3- What things make E-commerce reliable.

Our marketplace stands out through :-

● Affordibility :- we offer competitive price by partnering directly with manufacturers.

● Transparency :- Verified sellers and product sourcing details build customer trust.

● Customization :- Personalized product recommendations based on customer preferences.

● Fast Delivery :- Ecofriendly packaging with same day delivery options in select cities.

1 - Identify the Entities in the Marketplace :-

Here are some key entities for a typical E-commerce marketplace.

- **Customers** :- Users who browse and purchase products.

- **Products** :- Items listed for sale.

- **Orders** :- Transactions made by customers.

- **Sellers** :- Vendors who list products on the platform.

- **Categories** :- Product classifications (e.g, electronics, clothing).

- **Cart** :- Temporary storage for products before checkout.

- **Payments** :- Records of payment transactions.

- **Delivery Zone** :- Areas where products can be delivered.

- **Reviews** :- Customer feedback on products.

2- Define Relationships Between Entities

- <u>Customers → Orders</u> : One customer can place many orders.

- <u>Orders → Products</u> :- One order can contain many products (many-to-many).

- <u>Sellers → Products</u> :- One seller can list many products.

- <u>Product → Categories</u> :- One product belongs to one category ; categories have many products.

- <u>Orders → Payments</u> :- One rider has one payment.

- <u>Customers → Reviews</u> :- One customer can leave many reviews.

- <u>Product → Reviews</u> :- One product can have many reviews.

- <u>Orders → Delivery Zones</u> :- Orders are shipped to delivery zones.

3- Schema Overview Of E-commerce Website

- <u>Customers</u> (customer_id, name, email, address, phone).

- <u>Products</u> :- (product_id, name, description, price, stock, category_id, seller_id).

- <u>Orders</u> :- (Order_id, customer_id, total_price, Order_date, status, delivery-zone_id)

- <u>Sellers</u> :- (seller_id, name, email, store_name)

- <u>Categories</u> :- (category_id, name)

- <u>Cart</u> :- (cart_id, customer_id, product_id, quantity.

- <u>Payments</u> :- (payment_id, Order id, amount, payment_method, status).

- <u>Delivery Zones</u> :- (zone_id, region, delivery-fee)

- <u>Reviews</u> :- (review_id, customer-id, product_id, rating, comment).

4- Schenna Diagram Set

To create the diagram On paper, follow these tips :-

- Draw boxes for each entity.
- Inside each box, list attributes (e.g product-id, name).
- Use lines to connect related entities, adding symbols like :

  - 1 : One-to-One
  - ∞ : One-to-many or many to many

Example :-

- Customer(1) —> (∞) orders
- Product (∞)—> (1) Category
- Product (∞)—> (∞) orders (through a junction table like OrderItems.

1 :- Identify the Key Entities

- **Products** - Items available for purchase.
- **Orders** - Records of customer purchases.
- **Customers** - Users who make purchases.
- **Delivery Zones** - Areas where deliveries are made!
- **Sellers** - Vendors providing products.

- **Payment** – Payment information for Orders.
- **Reviews** – Feedback from customers on products.

2 : Define Key Fields For Each Entity Products :-

- Product ID (Primary Key)
- Name
- Price
- Stock
- Category
- Seller ID (Foreign Key – Sellers)

Orders

- Order ID (Primary Key)
- CustomerID (Foreign Key → Customers)
- Product ID (Foreign Key → Products)
- Quantity
- Status (Pending, Shipped, Delivered)
- Payment ID (Foreign Key → Payments)
- Delivery ZoneID (Foreign Key → Delivery Zones)

Customers

- Customer ID (Primary Key)
- Name
- Contact Info
- Address

Delivery Zones

- Zone ID (Primary Key)
- Zone Name
- Coverage Area
- Assigned Driver.

Sellers

- Seller ID (Primary Key)
- Store Name
- Contact Info

Payments

- Payment ID (Primary Key)
- Order ID (Foreign Key → Orders)
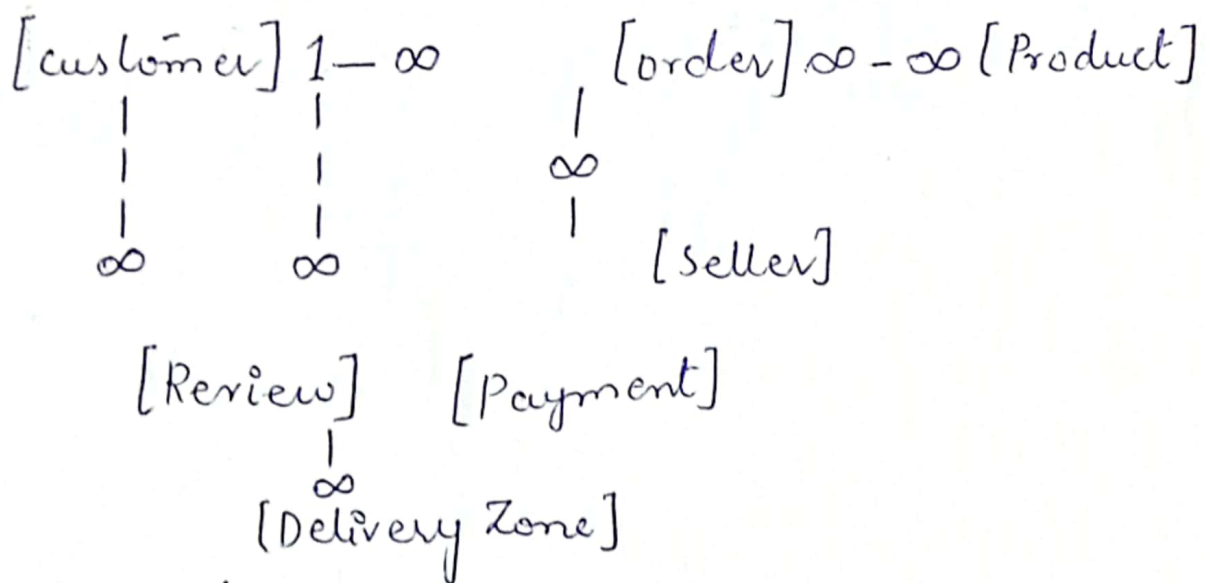- Amount
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Reviews

- ReviewID (Primary key)
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- Rating
- Comment.

3 - Entity Relationship Overview

- Customer → place many → Orders
- Orders → Contain many → Products (Many-to-Many via Order details)
- Products → belong to → Sellers
- Orders → are delivered in → Delivery Zones
- Orders → have One → Payment
- Customers → Leave many → Reviews → On products.

4 Schema Diagram (Text version)

```
[customer] 1— ∞          [order] ∞ - ∞ [Product]
    |        |               |
    |        |               ∞
    |        |               |
    ∞        ∞               |  [seller]
                            
        [Review]    [Payment]
           |
           ∞
       [Delivery Zone]
```

Legend:-
- 1 — ∞ One to Many
- ∞ - ∞ Many to Many.

2- Who is your target audience?

Our target audience includes environmentally conscious consumers aged 18-45, primarily urban dwellers, who value sustainability and ethical shopping. This audience is tech-savvy, prefers online shopping, and seeks products that align with their eco-friendly values.

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1 - Identify the Entities in the Marketplace :-

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- **Delivery Zone** :- Areas where products can be delivered.

- **Reviews** :- Customer feedback on products.

2- Define Relationships Between Entities

- **Customers → Orders**: One customer can place many orders.

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- **Sellers → Products**: One seller can list many products.

- **Product → Categories**: One product belongs to one category; categories have many products.

- **Orders → Payments**: One order has one payment.

- **Customers → Reviews**: One customer can leave many reviews.

- **Product → Reviews**: One product can have many reviews.

- **Orders → Delivery Zones**: Orders are shipped to delivery zones.

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- **Products** :- (product_id, name, description, price, stock, category_id, seller_id).

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- **Sellers** :- (seller_id, name, email, store_name)

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- **Delivery Zones** :- (zone_id, region, delivery_fee)

- **Reviews** :- (review_id, customer_id, product_id, rating, comment).

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Delivery Zones

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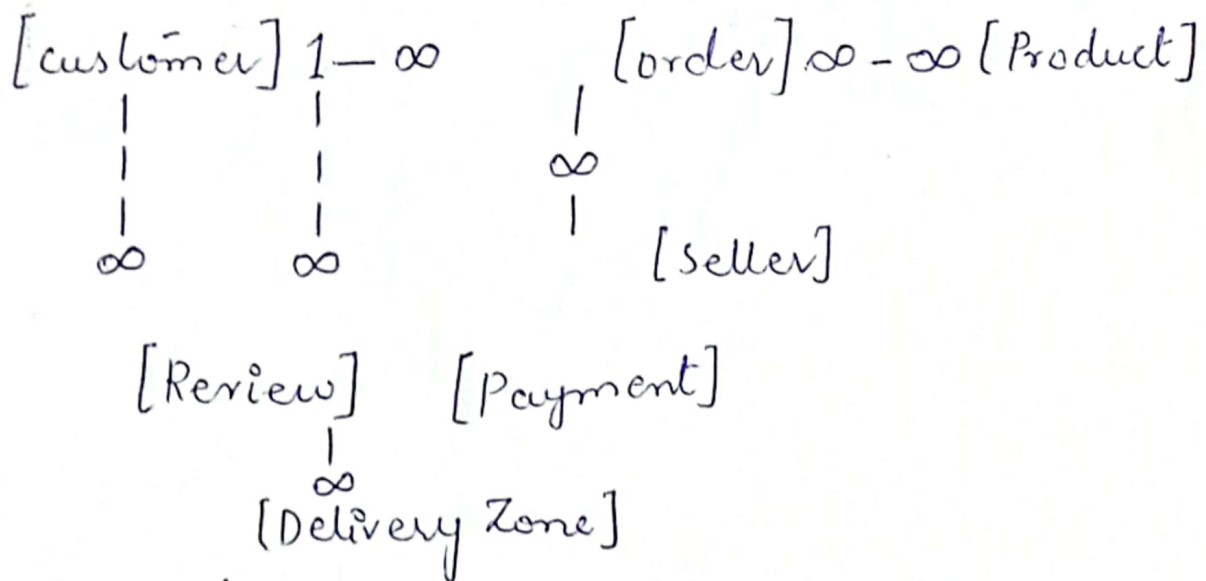- Amount
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    | | |
    | | ∞
    | | |
    ∞   ∞   [seller]

        [Review]   [Payment]
            |
            ∞
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Legend:-
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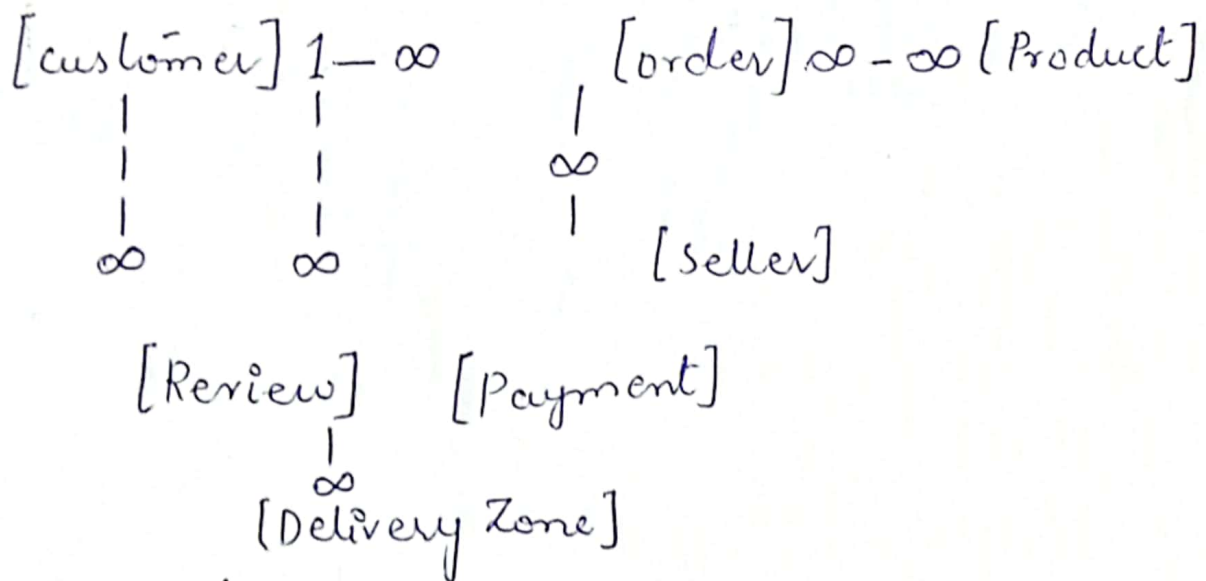- Amount
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   |        |                |
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   |        |                |
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         |
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