

List of Assumptions

1. A user can create a customer account, or a seller account for his/her business, or create both, separately. Since tracking in the database would be easier and also for the sake of database integrity, instead of a single **user_id**, we give each account a unique identifier (**seller_id** or **customer_id**) so that we could easily track how many customers for and how many sellers of a product we have, and how many sellers will be able to ship the products, etc.
Also a user can buy (as a customer) from himself (as a buyer) as it is also possible in many ecommerce websites.
2. A customer can be either a **free** user or a **premium** one (by paying monthly/yearly subscription fees). Premium customers are entitled for free worldwide shipping (**Shipment_Fee = \$0**).
After the premium membership ends, the user again becomes a free user and the registration date updates to the new date.
3. A single customer can have zero or only one billing information, but a billing entity that is created must only be connected to a single customer.
4. The customers can rate many sellers on the seller's profile and a seller can be rated by many customers (many-to-many relationship).
Rating system is out of 5, starting from worst (1) to best (5).
5. A customer, can create zero or many orders but an order can be created by only one customer.
6. An order can contain many products, from many different sellers; A seller can sell many different products to many different customers; A product can be sold by many different sellers to many different customers (three many-to-many relationships).
7. Sellers may not offer a similar pricing for a single product therefore a customer specifically chooses his/her preferred seller when ordering each product.
The **Order_Per_Product** table receives data from each product that the customer adds to its order from a specific seller, so **Order_Per_Prod_Quantity** is the quantity ordered for a single product of the seller and **Order_Per_Prod_Price** is the price of that product.
8. An order can have zero or many shipments depending on the variety of the sellers of the products, and also the product types. eg. **Digital** Products do not have a shipment.
However, each shipment must contain only one order.
For one order, different products bought from the same seller can be combined together for one shipment.
9. A shipment can be made directly from the seller to the customer but only for the product that they sell. Also, our business model will provide shipping services for the products not shipped by the sellers and also for combination of products bought from many sellers in a single order.
Our shipping system is beneficial to Premium users as they pay no Shipment Fee.

- 10.** An order can only have one payment (obtaining from **Billing_ID** of a customer).
- 11.** A category can contain many products but a product must have only one category.
- 12.** A customer can have zero or many wishlists but a wishlist must be connected to only one customer.
- 13.** A product can be in many wishlists and a wishlist must contain at least one product or can have many products.
- 14.** A review is written for a single product and a product can have many reviews.
A customer can write 0 to many reviews but a review can be written by only one customer.