

**Team Members:**

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**Database Topic:**

eCommerce Management System

**Mission Statement:**

The purpose of this project is to develop a database for eCommerce Management System, This will be used by Admins and Vendors to add products to the inventory and to perform certain searches and generate reports.

**Database Purpose:**

The purpose of this database is to maintain and provide data as it is created or required during a transaction of an E-Commerce website. The database will be used by the admins, vendors and customers of the website.

**Business Problems Addressed:**

- Allow admins to monitor items, orders etc being added or removed from the site.
- Allow vendors to monitor their products and add or delete items.
- Allow customers to explore products available and add or delete items in their cart and save it.

**Business Rules:**

- A Product can have one and only one category
- A Product can have zero or one sub-category
- A Product can have one and only one brand
- A Product can have one or many attributes
- A Product can have multiple ratings
- A Product can have multiple reviews
- A Product Category can have zero or more products
- A Product Sub Category can have zero or more products
- An Order can have one and only one discount code
- An Order can have one or multiple products
- An Order can have one and only one payment option
- An Order can have zero or one discount code
- An attribute group can have one or many attributes
- A User can have one role
- A User can have one or many address
- A User can have one or more order

Entity Name	Why this entity is included?	How this entity is related to other entities?
Product	One of the primary purposes of the database is to maintain data pertaining to the products available on the site.	As the core entity in the database, primary key productID relates to orderID, categoryID, subCategoryID, productBrandID, rating and review.
Category	Category relates to product category so it is easy to look up for both customers and vendors.	Primary key categoryID relates to productID defining a product category.
Sub-Category	Sub-Category are diversifications of a category.	Primary key subCategoryID relates to productID and categoryID.
Brand	Brand relates to product brand.	Primary key brandID relates to the productID since a brand represents a product.
Users	Customers are another pivotal aspect of the database as they are the primary users, The different User types are Customers, Admins, Vendors	Primary key userID relates to orderID which is created by the customer themselves.
Role	Role defines user privileges they will be having in the application.	roleID relates to userID.
Address	Every user has to have an address in the database.	Primary key addressID is related to userID
Address Type	A user can have multiple addresses for billing and shipping, this entity will keep track of these addresses	Primary key addressTypeID is related to the addressID
City	This entity will contain different City Names	Primary key cityID is related to the addressID
State	This entity will contain different State Names	Primary key stateID is related to addressID, countryID and taxRateID
Country	This entity will have different country names	Primary key countryID is related to the addressID

Orders	Customer would want to order the items of their choice and this will maintain the data for it.	Primary key orderID relates to the particular userID, discountCode, shipmentOptionID, paymentOptionID, taxRateID
ProductAttributes	Item relates to multiple options like size, material, colour etc	Primary key attributeID is related to productID, A product can have multiple attributes
Reviews	Reviews provided by former customers influence future customers and vendors, and also the sales of that product	Primary key reviewID is related to productID and userID
Ratings	Ratings provided by former customers influence future customers and vendors, and are also used for sorting products	Primary key review is related to productID and userID
Cart	Cart is the place where customer can add items they wish to order or save it till they decide on them.	Primary key cartID relates productID and userID
Shipment Options	Shipment options are the multiple delivery options which decide the shipping time to the customer	Primary key shipmentOptionID is related to orderID
Payment Options	Payment options are the multiple payment gateways used by customers to pay the billing amount	Primary Key paymentOptionID is related to orderID which in turn is related to the userID
Discount Code	Discount Code is the code customer can apply to gain discount on the total Order amount	Primary key discountCodeID is related to orderID which in turn is related to userID
StateTaxRates	Its the tax rate applicable for each state	Primary Key taxRateID is related to the OrderID and the stateID