**Domain: E-commerce Website : Stickersbaba.com**

Entities/Classes:

1. Admin – The administrator or owner of the website
2. Users/Customers – The customer who will come and purchase the products
3. Categories – A class or group of products (Electronics, Clothing)
4. Products – Different types of products on a website (Earphones, mobiles)
5. Seller – The one who is selling the products of the marketplace
6. Orders – The orders received on the website
7. Deliveries – orders that are supposed to be delivered to the customer
8. Transaction reports – details of tax invoices, GST.
9. Payment – reports of cash, non-cash payments, credits and personal transaction.
10. Customer details – personal details of the customer (address, name etc.)

**Attributes:**

1. **Admin**

* username (string): the username of the admin
* password (string): the password of the admin, stored in encrypted form for security reasons
* email (string): the email address of the admin
* role (string): the role of the admin, e.g. "super admin" or "moderator"
* date created (date): the date the admin account was created
* date modified (date): the date the admin account was last modified
* status (string): the status of the admin account, e.g. "active" or "disabled"
* contact number (string): the phone number of the admin
* last login (date): the date the admin last logged in
* permissions (list of strings): the permissions assigned to the admin account, e.g. "add product", "delete user", etc.

1. **Users/Customers**

* name (string): the name of the user/customer
* email (string): the email address of the user/customer
* password (string): the password of the user/customer, stored in encrypted form for security reasons
* billing address (string): the billing address of the user/customer
* shipping address (string): the shipping address of the user/customer
* date created (date): the date the user/customer account was created
* date modified (date): the date the user/customer account was last modified
* status (string): the status of the user/customer account, e.g. "active" or "disabled"
* contact number (string): the phone number of the user/customer
* orders (list of Order objects): the list of orders placed by the user/customer

1. **Categories**

* name (string): the name of the category, e.g. "Electronics" or "Clothing"
* description (string): a description of the category
* parent category (Category object): the parent category of the category, if any
* date created (date): the date the category was created
* date modified (date): the date the category was last modified
* status (string): the status of the category, e.g. "active" or "disabled"
* products (list of Product objects): the list of products in the category

• category ID (integer): a unique identifier for the category, assigned by the system

* is\_visible (Boolean): indicates whether the category is visible to customers on the website.
* popularity score (float): a score that indicates how popular the category is, based on the number of times it has been viewed or clicked by customers.

1. **Products**

* name (string): the name of the product, e.g. "Earphones" or "Mobiles"
* description (string): a description of the product
* price (decimal): the price of the product
* stock (integer): the current stock of the product
* category (Category object): the category to which the product belongs
* seller (Seller object): the seller of the product
* date created (date): the date the product was created
* date modified (date): the date the product was last modified
* status (string): the status of the product, e.g. "active" or "disabled"
* image (string): the URL of the product image

1. **Seller**

* name (string): the name of the seller
* email (string): the email address of the seller
* password (string): the password of the seller, stored in encrypted form for security reasons
* billing address (string): the billing address of the seller
* shipping address (string): the shipping address of the seller
* date created (date): the date the seller account was created
* date modified (date): the date the seller account was last modified
* status (string): the status of the seller account, e.g. "active" or "disabled"
* contact number (string): the phone number of the seller
* products (list of Product objects): the list of products sold by the seller

1. **Orders** :

* order number (string): a unique identifier for the order
* customer (User/Customer object): the user/customer who placed the order
* products (list of Product objects): the list of products ordered in the order
* total price (decimal): the total price of the order
* date created (date): the date the order was created
* date modified (date): the date the order was last modified
* status (string): the status of the order, e.g. "pending", "shipped", etc.
* payment (Payment object): the payment details for the order
* delivery (Delivery object): the delivery details for the order

1. **Deliveries :**

* delivery number (string): a unique identifier for the delivery
* order (Order object): the order to which the delivery belongs
* shipping address (string): the shipping address for the delivery
* delivery date (date): the date the delivery is scheduled for
* delivery status (string): the status of the delivery, e.g. "in transit", "delivered", etc.
* delivery person (string): the name of the delivery person assigned to the delivery
* delivery person contact (string): the contact number of the delivery person
* delivery notes (string): any notes related to the delivery, e.g. "leave at doorstep"
* E-way Bill no ( string) : A number given to orders if order values is greater than 50k.
* Delivered to - (string) ( name to whom the product is delivered it will reflect in the main portal of customer)
* Delivery comments (string)– ( Customer comments at the time of delivery )

1. **Transaction reports :**

* transaction ID (string): a unique identifier for the transaction
* total transaction (Int) : total number of transactions done in day
* transaction amount (Int) : amount of transaction done by the user
* order (Order object): the order for which the transaction was made
* payment (Payment object): the payment details for the transaction
* date created (date): the date the transaction was created
* transaction type (string): the type of the transaction, e.g. "credit card", "COD", etc.
* transaction amount (decimal): the amount of the transaction
* transaction status (string): the status of the transaction, e.g. "successful", "failed", etc.
* transaction notes (string): any notes related to the transaction
* B2B transactions(Int) : business 2 business transactions
* B2C transactions(Int) business 2 customer transactions

1. **Payments** :

* payment ID (string): a unique identifier for the payment
* transaction (Transaction object): the transaction for which the payment is made
* payment type (string): the type of the payment, e.g. "credit card", "debit card", etc.
* payment amount (decimal): the amount of the payment
* payment status (string): the status of the payment, e.g. "successful", "failed", etc.
* payment date (date): the date the payment was made
* payment notes (string): any notes related to the payment
* Cash payments (integer): the total amount of payments made in cash
* Non-cash payments (integer): the total amount of payments made by non-cash methods, such as credit card or digital wallet
* GST % (integer): the applicable GST (Goods and Services Tax) percentage, which could vary depending on the location or type of product being sold
* Payment status (string): the status of the payment, e.g. "paid", "pending", "failed", etc.
* Payment receipt (integer): the unique identifier of the payment receipt, which can be used to track the payment and verify its authenticity.

1. **Customer details :**

* Customer ID (integer): a unique identifier assigned to each customer by the system
* Customer name (string): the name of the customer
* Customer email (string): the email address of the customer
* Customer number (integer): the phone number of the customer
* Customer orders (list of Order objects): the list of orders placed by the customer
* Customer transactions (list of Transaction objects): the list of transactions made by the customer
* Customer order success rate (float): the success rate of the customer's orders, calculated as the ratio of successful orders to total orders
* Customer address (string): the address of the customer
* Customer ratings (integer): the average rating given by other customers to this customer, based on their behavior or reviews
* Order tracking (string): a link or code that the customer can use to track the status of their orders.

**Entities that satisfy the IS\_A and HAS\_A relationship in the domain of an ecommerce website (stickersbaba.com) are:**

* IS\_A: Product, HAS\_A: Brand - A product on an ecommerce website is a type of item that a customer can purchase. Each product is associated with a brand, which is a characteristic of the product.
* IS\_A: Customer, HAS\_A: Order - A customer is a person who places an order on an ecommerce website. An order is a record of the products that the customer has chosen to purchase.
* IS\_A: Cart, HAS\_A: Item - A cart is a virtual container that customers use to keep track of the items they want to purchase on an ecommerce website. Each item in the cart is a product that the customer has chosen.
* IS\_A: Payment, HAS\_A: Method - Payment is a process of transferring money from the customer to the seller. A payment method is a way in which the customer can make the payment.
* IS\_A: Seller, HAS\_A: Product - A seller is a person or entity who sells products on an ecommerce website. Each product on the website is associated with one or more sellers who offer it for sale.
* IS\_A: Order, HAS\_A: Product - An order on an ecommerce website is typically made up of one or more products that the customer has selected for purchase.
* IS\_A: Payment, HAS\_A: Payment Method - A payment on an ecommerce website requires a payment method, such as a credit card or PayPal account.
* IS\_A: Wishlist, HAS\_A: Product - A wishlist on an ecommerce website allows customers to save products they are interested in purchasing for future reference.
* IS\_A: Coupon, HAS\_A: Discount - A coupon on an ecommerce website typically offers a discount on a product or order.
* IS\_A: Review, HAS\_A: Product - Reviews on an ecommerce website are typically associated with a specific product, and provide feedback and ratings from other customers who have purchased and used the product.

Class Diagram:

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| Admin | | Customer |

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| admin\_id: int | | user\_id: int |

| admin\_name: String | | user\_title: String |

| admin\_password: Str | | user\_name: String |

| admin\_email: String | | user\_password: String |

| admin\_phone: int | | user\_email: String |

| admin\_education: St | | user\_phone: int |

| admin\_age: int | | user\_alt\_phone: int |

| admin\_height: int | | user\_city: String |

| admin\_experience: S | | user\_pincode: String |

| admin\_maritial\_stat | | user\_state: String |

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