# Functional Requirement

### 1.1 Account Registration Function   
\*\*Function ID:\*\* FR-01   
\*\*Description:\*\* Allows customers to register a new account by providing required personal information. The system validates the input and creates a new account upon successful verification.   
\*\*Input:\*\* Customer details (Name, Email, Password, Address).   
\*\*Output:\*\* New account record stored in the database with status "Unverified"; confirmation email sent to the customer.   
  
### 1.2 Account Login Function   
\*\*Function ID:\*\* FR-02   
\*\*Description:\*\* Authenticates customers or administrators using registered credentials and grants access to the system.   
\*\*Input:\*\* Email and Password.   
\*\*Output:\*\* Successful login redirects to the user dashboard; session data is initialized.   
  
### 1.3 Account Logout Function   
\*\*Function ID:\*\* FR-03   
\*\*Description:\*\* Terminates the current user session and clears session data.   
\*\*Input:\*\* Active user session.   
\*\*Output:\*\* Session terminated; user redirected to the login page.   
  
### 1.4 Profile Update Function   
\*\*Function ID:\*\* FR-04   
\*\*Description:\*\* Allows users to modify their profile information (e.g., name, address).   
\*\*Input:\*\* Updated profile data (e.g., Name, Address).   
\*\*Output:\*\* Updated profile record in the database; confirmation message displayed.   
  
### 1.5 Purchase History View Function   
\*\*Function ID:\*\* FR-05   
\*\*Description:\*\* Retrieves and displays a customer's past orders with details such as product name, quantity, and date.   
\*\*Input:\*\* Customer ID.   
\*\*Output:\*\* List of purchase history records displayed in the user interface.   
  
### 1.6 Order Details View Function   
\*\*Function ID:\*\* FR-06   
\*\*Description:\*\* Displays detailed information for a specific order, including products, quantities, and status.   
\*\*Input:\*\* Order ID.   
\*\*Output:\*\* Structured order details displayed in the user interface.   
  
### 1.7 Payment Information Update Function   
\*\*Function ID:\*\* FR-07   
\*\*Description:\*\* Allows customers to add, edit, or delete payment methods (e.g., credit card details).   
\*\*Input:\*\* Payment details (e.g., Card Number, Expiry Date, CVV).   
\*\*Output:\*\* Updated payment information stored in the database; confirmation message displayed.   
  
### 1.8 Inventory Management Function   
\*\*Function ID:\*\* FR-08   
\*\*Description:\*\* Enables administrators to update product stock levels and reorder thresholds.   
\*\*Input:\*\* Product ID and new inventory quantity.   
\*\*Output:\*\* Updated inventory record in the database; confirmation message displayed.   
  
### 1.9 Product Category Management Function   
\*\*Function ID:\*\* FR-09   
\*\*Description:\*\* Allows administrators to create, edit, or delete product categories.   
\*\*Input:\*\* Category details (Name, Description).   
\*\*Output:\*\* Updated category records in the database; confirmation message displayed.   
  
### 1.10 Product Details Update Function   
\*\*Function ID:\*\* FR-10   
\*\*Description:\*\* Enables administrators to modify product attributes (e.g., price, description).   
\*\*Input:\*\* Product ID and updated details (e.g., Price, Description).   
\*\*Output:\*\* Updated product record in the database; confirmation message displayed.   
  
### 1.11 Sales Report Generation Function   
\*\*Function ID:\*\* FR-11   
\*\*Description:\*\* Generates sales reports based on filters (e.g., date range, category).   
\*\*Input:\*\* Filter criteria (e.g., Date Range, Category).   
\*\*Output:\*\* Sales report data displayed or exported (e.g., PDF, Excel).   
  
### 1.12 Product Addition Function   
\*\*Function ID:\*\* FR-12   
\*\*Description:\*\* Allows administrators to add new products to the system.   
\*\*Input:\*\* Product details (Name, Description, Price, Category, Inventory).   
\*\*Output:\*\* New product record stored in the database; confirmation message displayed.   
  
### 1.13 Product Removal Function   
\*\*Function ID:\*\* FR-13   
\*\*Description:\*\* Enables administrators to remove products from the system.   
\*\*Input:\*\* Product ID.   
\*\*Output:\*\* Product record deleted from the database; confirmation message displayed.   
  
### 1.14 Product Search Function   
\*\*Function ID:\*\* FR-14   
\*\*Description:\*\* Retrieves products based on user search queries or filters.   
\*\*Input:\*\* Search term or filter criteria (e.g., Category, Price Range).   
\*\*Output:\*\* List of matching products displayed in the user interface.   
  
### 1.15 Shopping Cart Addition Function   
\*\*Function ID:\*\* FR-15   
\*\*Description:\*\* Adds a selected product to the customer's shopping cart.   
\*\*Input:\*\* Product ID and Quantity.   
\*\*Output:\*\* Updated shopping cart with the new item; confirmation message displayed.   
  
### 1.16 Shopping Cart Removal Function   
\*\*Function ID:\*\* FR-16   
\*\*Description:\*\* Removes a product from the customer's shopping cart.   
\*\*Input:\*\* Cart Item ID.   
\*\*Output:\*\* Updated shopping cart without the removed item; confirmation message displayed.   
  
### 1.17 Shopping Cart Quantity Update Function   
\*\*Function ID:\*\* FR-17   
\*\*Description:\*\* Modifies the quantity of a product in the shopping cart.   
\*\*Input:\*\* Cart Item ID and new Quantity.   
\*\*Output:\*\* Updated shopping cart with adjusted quantity; confirmation message displayed.   
  
### 1.18 Cart Summary View Function   
\*\*Function ID:\*\* FR-18   
\*\*Description:\*\* Displays a summary of the customer's shopping cart, including products and total cost.   
\*\*Input:\*\* Customer ID.   
\*\*Output:\*\* Shopping cart summary displayed in the user interface.   
  
### 1.19 Order Placement Function   
\*\*Function ID:\*\* FR-19   
\*\*Description:\*\* Processes the customer's shopping cart into a confirmed order, updates inventory, and notifies the administrator.   
\*\*Input:\*\* Customer ID and Payment Information.   
\*\*Output:\*\* New order record in the database; inventory updated; confirmation email sent.   
  
### 1.20 Order Cancellation Function   
\*\*Function ID:\*\* FR-20   
\*\*Description:\*\* Cancels a customer's order and restores inventory if applicable.   
\*\*Input:\*\* Order ID.   
\*\*Output:\*\* Order status updated to "Cancelled"; inventory adjusted (if unshipped); confirmation message displayed.   
  
### 1.21 Order Status View Function   
\*\*Function ID:\*\* FR-21   
\*\*Description:\*\* Retrieves and displays the current status of a customer's order.   
\*\*Input:\*\* Order ID.   
\*\*Output:\*\* Order status details displayed in the user interface.   
  
### 1.22 Order Confirmation Function   
\*\*Function ID:\*\* FR-22   
\*\*Description:\*\* Finalizes the order after customer confirmation, updates inventory, and notifies the administrator.   
\*\*Input:\*\* Order ID and Customer Confirmation.   
\*\*Output:\*\* Order status updated to "Confirmed"; inventory updated; confirmation email sent.   
  
### 1.23 Account Management Function   
\*\*Function ID:\*\* FR-23   
\*\*Description:\*\* Allows users to update account settings (e.g., password, email).   
\*\*Input:\*\* Updated account details (e.g., Password, Email).   
\*\*Output:\*\* Updated account record in the database; confirmation message displayed.   
  
### 1.24 Payment Information Management Function   
\*\*Function ID:\*\* FR-24   
\*\*Description:\*\* Enables users to manage their saved payment methods.   
\*\*Input:\*\* Payment details (e.g., Card Number, Expiry Date).   
\*\*Output:\*\* Updated payment records in the database; confirmation message displayed.   
  
### 1.25 Purchase History Management Function   
\*\*Function ID:\*\* FR-25   
\*\*Description:\*\* Allows administrators to view and filter customer purchase history.   
\*\*Input:\*\* Filter criteria (e.g., Customer ID, Date Range).   
\*\*Output:\*\* Filtered purchase history records displayed in the user interface.