**3NF Proof:**

R = (Orders, Order\_details, Items, Users, Cart, Favorites, Reviews, Address, Coupons)

FD:

Orders -> Coupons Address

Order\_details -> Orders Items

Cart -> Items Users

Favorites -> Items Users

Reviews -> Items Users

Address -> Users

Fc:

Orders -> Coupons Address Users

Order\_details -> Orders Items Coupons Address Users

Cart -> Items Users

Favorites -> Items Users

Reviews -> Items Users

Address -> Users

3NF:

Orders -> Orders Coupons Address Users

Order\_details -> Order\_details Orders Items Coupons Address Users

Cart -> Cart Items Users

Favorites -> Favorites Items Users

Reviews -> Reviews Items Users

Address -> Address Users

**Functionality Report:**

The website is a platform for users, buyers and sellers, to order and sell their items. Users can sign up and the site will store users’ information, such as username, name, and password. Users can log in and log out. The site provides items’ information, such as name, price, and whether it is in stock. The site keeps order details with item\_id and quantity. It also has a cart function for customers to add items to their carts before checking out. Customers can also mark their favorite items and write reviews for purchased items. Moreover, the site can accept coupons and check validity.