```
# Dictonary to save credentials of users
users = {
     "user1": {
          "usertype":"user",
          "password":"1234567",
          "cart":[]
     },
     "user2": {
          "usertype":"user",
          "password":"1234567",
          "cart":[]
     },
     "admin":{
          "usertype":"admin",
          "password":"1234567"
     }
}

# Dictonary of category
category={"1": "Footwear", "2": "Clothing","3": "Electronics"}

# Dictonary of product
product1={"id":"1","name":"boot","catId":"1", "price":"800"}
product2={"id":"2","name":"sandal","catId":"1", "price":"300"}
product3={"id":"3","name":"tunic","catId":"2", "price":"1000"}
product4={"id":"4","name":"mobile","catId":"3", "price":"40000"}
products=[product1, product2, product3, product4]

name=""

# Function to view all category
def viewCat():
    print("\nCategory are as follows:")
    for index, item in category.items():
        print(index,". ",item)

# Function to view product of selected category
def catlog():
     choice = input("\nSelect the categories from following \n 1.
Footwears \n 2. Clothing \n 3. Electronic \n Enter your choice: ")
     if(int(choice) < 4):
      print("\n Product from "+ category[str(choice)]+" are: \n\n")
      for index, item in enumerate(products):
          if(products[index]["catId"]== choice):
            print("-----------------------------")
            print("Product Id: "+(products[index]["id"]))
            print("Product Name: "+(products[index]["name"]))
            print("Product Price: "+(products[index]["price"]))
            print("-----------------------------")
     else:
        print("Invalid choice")

     userMenu()
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# Function to view all product
def viewProduct():
        for index, item in enumerate(products):
          print("\n\n----------------------------")
          print("Product Id: "+(products[index]["id"]))
          print("Product Name: "+(products[index]["name"]))
          print("Product Price: "+(products[index]["price"]))
        print("----------------------------")

# Function to view all items in cart of logged in user
def viewCart():
    item=len(users[name]["cart"])
    if(item == 0):
       print("\n You have 0 item in cart \n")
    else:
       print("\n You have "+ str(item) +" items in cart \n")
       for i in users[name]["cart"]:
           print("Category "+category[i["catId"]]+" | Product Name
"+i["name"]+" Product Price "+i["price"])
    userMenu()

# Function to add item to cart
def addToCart():
     pId = input("Enter the product id: ")
     quantity= input("Enter the quantity: ")
     item=None
     for i in products:
         if(i["id"]==pId):
             item=i
             print("Item to be added is"+ str(item))
             break
     j=int(quantity)
     while j!=0:
         users[name]["cart"].append(item)
         j = j-1
     print("The item added successfully")
     addMore=input("\n Do you want to add more product? (Y/N): ")
     if(addMore == "Y"):
         addToCart()
     else:
         userMenu()

# Function to remove item/items from cart
def removeItem():
     if(len(users[name]['cart'])!=0):
      pId = input("Enter the product id: ")
      quantity= input("Enter the quantity: ")
      for i in products:
         if(i['id']==pId):
             print("Item to be removed is"+ str(i))
             break
      j=int(quantity)
      for user in users.values():
       if 'cart' in user:
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        for cart in user['cart']:
            while j!=0:
                user['cart'].remove(cart)
                j=j-1
        print(users)
      print("The item removed successfully")
     else:
        print("Your cart is empty")
     userMenu()

# Function to calculate price of all the items and checkout by
selection particular mode of payment
def checkout():
    if(len(users[name]['cart'])!=0):
     item = users[name]["cart"]
     total = 0
     for i in item:
       total=total+int(i["price"])
     paymentMode=input("Please select payment mode from following:
\n 1. UPI \n 2. PayPal \n 3. Netbanking \n 4. Debit Card \n 5.
Credit Card \n Enter choice: ")
      # Display a checkout message that is specific to the selected
payment option.
     print("You will be shortly redirected to make a payment of
Rs.", total)
     # Display a success message.
     print("Your payment has been successfully processed.")
    else:
        print("Your cart is empty")
    userMenu()

# Function to logout from account (user/admin)
def logout():
    global name
    name = ""
    print("\nyou have been logged out successfully")
    print("Visit us again soon!\n")
    return None

# Function to select option from user menu
def userMenu():

     choice = input("\n\n Select from following option \n 1. Catlog
\n 2. View Cart \n 3. Add item to cart \n 4. Remove item from cart
\n 5. Checkout \n 6. Logout \n Enter your choice: ")
     if(choice == "1"):
         catlog()
     elif(choice == "2"):
           viewCart()
     elif(choice == "3"):
         addToCart()
     elif(choice == "4"):
        removeItem()
     elif(choice == "5"):
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            checkout()
        elif(choice == "6"):
            logout()
        else:
            print("Invalid choice")

# Function for user login
def userLogin():
        username = input("Enter username: ")
        password = input("Enter password: ")
        global name
        name =username

        if(users.get(username) is not None):
            if(users[username]["password"]==password):
                if(users[username]["usertype"]=="user"):
                  print("\n\nWelcome "+ username.upper()+"!!!\n\n")
                  userMenu()
            else:
                print("\nInvalid credentials\n")
            return username
        else:
            print("\nInvalid credentials\n")
            return None

# Function to signup
def signUp():
        username=input("Enter username: ")
        password=input("Enter password: ")
        retype=input("Enter confirm password: ")
        global name
        name =username
        if(password == retype):
            print("\n\nWelcome to Shopping App\n\n")
            users.update(
                { username:{
                    "usertype": "user",
                    "password": password,
                     "cart":[]}
                }
              )
            userMenu()
            return username
        else:
            print("Password and Confirm Password does not match")
            return None

# Function for adding category
def addCategory():
    print()
    id = input("\n Enter category id: ")
    name= input("Enter Category name: ")
    category.update({id:name})
    viewCat()
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    adminMenu()

# Function for removing category
def removeCategory():
    id = input("\n Enter category id: ")
    for i in products:
        if(i["id"] == id):
            products.remove(i)
    del category[id]
    viewCat()
    adminMenu()

# Function for adding product to particular category
def addProduct():
    print()
    id = input("\n Enter product id: ")
    name= input("Enter product name: ")
    catId = input("\n Enter product category id: ")
    price= input("Enter product price: ")
    # Create a new product dictionary.
    new_product = {
        "name": name,
        "id": id,
        "price": price,
        "catID": catId,
    }
    # Add the new product to the list of products.
    products.append(new_product)
    print("The product has been added successfully!")
    viewProduct()
    adminMenu()

# Function to update product
def updateProduct():
    print()
    id = input("\n Enter product id: ")
    name= input("Enter product name: ")
    catId = input("\n Enter category id: ")
    price= input("Enter product price: ")
    for index, item in enumerate(products):
          if(products[index]["id"]== id):
            print("Update", item, "from products")
            products[index]["name"] = str(name)
            products[index]["catId"] = str(catId)
            products[index]["price"] = str(price)
    viewProduct()
    adminMenu()

# Function to remove product
def removeProduct():
    print()
    id = input("\n Enter product id: ")
    for i in products:
        if(i["id"] == id):
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            print("Removed", i, "from products", id)
            products.remove(i)
    viewProduct()
    adminMenu()

# Function to select option from admin menu
def adminMenu():
     choice = input("\n\n Select from following option \n 1. Add
Category \n 2. Remove Category \n 3. Add Product \n 4. Update
Product \n 5. Remove Product \n6. Logout \n Enter your choice: ")
     if(choice == "1"):
         addCategory()
     elif(choice == "2"):
         removeCategory()
     elif(choice == "3"):
          addProduct()
     elif(choice == "4"):
         updateProduct()
     elif(choice == "5"):
         removeProduct()
     elif(choice == "6"):
         logout()
     else:
         print("Invalid choice")

# Function for admin login
def adminLogin():
     username = input("Enter username: ")
     password = input("Enter password: ")
     global name
     name =username
     if(users.get(username) is not None):
          if(users[username]["password"]==password):
               if(users[username]["usertype"]=="admin"):
                 print("\n\nWelcome "+ username.upper()+"!!!\n\n")
                 adminMenu()
          else:
               print("\nInvalid credentials\n")
          return username
     else:
          print("\nInvalid credentials\n")
          return None

# Start point of complete application
def start():
    print("\n\nWelcome to the Demo Marketplace\n\n")
    loginType=input("Enter the type of login \n 1. User Login \n 2.
Signup \n 3. Admin Login \n Enter your choice: ")
    if(int(loginType) == 1):
         userLogin()
    elif (int(loginType)== 2):
         signUp()
    elif (int(loginType)== 3):
         adminLogin()
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    else:
        print("Invalid choice")
start()
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