

Programming Assignment Unit 2

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CS 1103: Programming 2

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```
package com.ecommerce;

import java.util.ArrayList;
import java.util.List;

public class Product {
    private int productID;
    private String name;
    private double price;

    public Product(int productID, String name, double price) {
        this.productID = productID;
        this.name = name;
        this.price = price;
    }

    public String getName() {
        return name;
    }

    public double getPrice() {
        return price;
    }
}
```

```
package com.ecommerce;
import java.util.ArrayList;
import java.util.List;

public class Customer {
    private int customerID;
    private String name;
    private List<Product>shoppingCart;

    public Customer(int customerID, String name) {
        this.customerID = customerID;
        this.name = name;
        this.shoppingCart = new ArrayList<>();
    }

    public void addToCart(Product product1) {
        // Add the product to the shopping cart
        shoppingCart.add(product1);
    }

    public String getName() {
        return name;
    }

    public double calculateCartTotal() {
        double total = 0;
        for (Product product: shoppingCart) {
            total += product.getPrice();
        }
        return total;
    }
}
```

```
package com.ecommerce.orders;

import com.ecommerce.Customer;
import com.ecommerce.Product;
import java.util.ArrayList;
import java.util.List;

public class Order {
    private int orderID;
    private Customer customer;
    private List<Product> products;
    private double orderTotal;

    public Order() {
        //Initialize the list of products
        this.products = new ArrayList<>();
    }

    public void addProduct(Product product1) {
        // Add the product to the list of products in the order
        products.add(product1);
    }

    public void setCustomer(Customer customer) {
        this.customer = customer;
    }

    public void calculateOrderTotal() {
        // Calculatte the total cost of the order based on the products in the order
        orderTotal = 0;
        for (Product product : products) {
            orderTotal += product.getPrice();
        }
    }

    public void placeOrder() {
        // Placeholder method for placing the order
    }

    public double getOrderTotal() {
        // Return the calculated order total
        return orderTotal;
    }
}
```

```
import com.ecommerce.*;
import com.ecommerce.orders.*;
public class Main {

    public static void main(String[] args) {
        // Creating instances of products, customers, and orders
        Product product1 = new Product(1, "Product1", 10.99);
        Customer customer1 = new Customer(1, "Customer1");
        Order order1 = new Order();

        //Customers can now browse products, add them to their shopping cart and place
orders
        customer1.addToCart(product1);
        order1.addProduct(product1);
        order1.setCustomer(customer1);
        order1.calculateOrderTotal();
        order1.placeOrder();

        //Show the products, customers and orders on the screen
        System.out.println("Product: " +product1.getName()+"", Price: $" +product1.getPrice
());
        System.out.println("Customer: " +customer1.getName()+"", Cart Total: $"
+customer1.calculateCartTotal());
        System.out.println("Order Total: $" +order1.getOrderTotal());

    }

}
```

Console

```
Product: Product1, Price: $10.99  
Customer: Customer1, Cart Total: $10.99  
Order Total: $10.99
```