class Product {  // product class

    int id;

    double price;

    int quantity;

    // Constructor

    Product(int id, double price, int quantity) {

        this.id = id;

        this.price = price;

        this.quantity = quantity;

    }

}

// ShoppingCart class

class ShoppingCart {

    // Constants for tax and discount

    static final double TAX\_RATE = 0.05;            // 5% tax

    static final double DISCOUNT\_RATE = 0.08;        // Fixed 8% discount

    Product[] productsArray;  // Array to hold products

    int count;

    // Constructor to set the cart size of aaray

    ShoppingCart(int size) {

        productsArray = new Product[size];

        count = 0;

    }

    // Method to add a product to the cart

    void addProduct(int id, double price, int quantity) {

        // Check for space in cart

        if (count < productsArray.length) {

            // Create a new product and constructor call

            productsArray[count] = new Product(id, price, quantity);

            count++;

        } else {

            System.out.println("Cart is full.");

        }

    }

    // Method to calculate total cost, applying discount and tax

    double payment() {

        double totalAmount = 0;

        // Calculate the total cost of products in the cart

        for (int i = 0; i < count; i++) {

            totalAmount += productsArray[i].price \* productsArray[i].quantity; // Add product total to totalAmount

        }

        // Apply fixed discount and Apply tax

        totalAmount = totalAmount - totalAmount \* DISCOUNT\_RATE + totalAmount \* TAX\_RATE ;

        return totalAmount; // Return final total amount

    }

}

// Main class

public class OnlineShoping {

    public static void main(String[] args) {

        // Create a shopping cart with size 3

        ShoppingCart sc = new ShoppingCart(3);

        System.out.println();

        sc.addProduct(1, 200.0, 2); // Product ID 1, price 200, quantity 2

        sc.addProduct(2, 150.0, 3); // Product ID 2, price 150, quantity 3

        sc.addProduct(3, 100.0, 1); // Product ID 3, price 100, quantity 1

        System.out.println("Total Cost (with tax and 8% discount): " + sc.payment());

        System.out.println();

    }

}