CODE: Build A Receipt Calculator In Java

```
import java.util.ArrayList;
import java.util.Scanner;

class Item {
    String name;  // Name of the item
    double price;  // Price of the item
    int quantity;  // Quantity of the item

    // Constructor to initialize name, price, and quantity
    Item(String name, double price, int quantity) {
        this.name = name;
        this.price = price;
        this.quantity = quantity;
    }

    // Method to calculate the total price of the item (price * quantity)
    public double getTotalPrice() {
        return price * quantity;
    }

    // Method to return a formatted string for printing the item on the receipt
    @Override
    public String toString() {
        return String.format("%-20s %5d  x  $%.2f = $%.2f", name, quantity, price, getTotalPrice());
    }
}

public class Main {

    private static final double TAX_RATE = 0.10; // 10% tax rate
    private static final double DISCOUNT_RATE = 0.05; // 5% discount if subtotal is greater
than 100

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);  // Scanner object to take user input
        ArrayList<Item> items = new ArrayList<>();  // List to store all items

        double subtotal = 0.0;  // Initialize subtotal to zero

      // Infinite loop to continuously accept items until "done" is entered
        while (true) {
```

```
    System.out.print("Enter item name (or 'done' to finish): ");
    String name = scanner.nextLine();  // Read the item name
    if (name.equalsIgnoreCase("done")) {  // Break the loop if 'done' is entered
        break;
    }

    System.out.print("Enter item price: ");
    double price = scanner.nextDouble();  // Read the item price

    System.out.print("Enter item quantity: ");
    int quantity = scanner.nextInt();  // Read the item quantity
    scanner.nextLine();  // Consume the newline character after nextInt()

    // Create a new Item object and add it to the list
    Item item = new Item(name, price, quantity);
    items.add(item);  // Add item to the list

    // Update subtotal by adding the total price of the current item
    subtotal += item.getTotalPrice();
}

// Check if no items were added and exit the program if the list is empty
if (items.isEmpty()) {
    System.out.println("No items were added.");
    return;
}

// Calculate the tax as 10% of the subtotal
double tax = subtotal * TAX_RATE;

// Calculate the discount if subtotal is greater than 100, else no discount
double discount = (subtotal > 100) ? subtotal * DISCOUNT_RATE : 0.0;

// Calculate the final total including tax and discount
double total = subtotal + tax - discount;

// Print the receipt details
System.out.println("\n--- RECEIPT ---");
for (Item item : items) {  // Print each item in the list
    System.out.println(item);
}

// Print the subtotal, tax, discount, and total in formatted output
System.out.printf("\n%-20s $%.2f\n", "Subtotal:", subtotal);
```

```
        System.out.printf("%-20s $%.2f\n", "Tax (10%):", tax);
        System.out.printf("%-20s $%.2f\n", "Discount (5% if > $100):", discount);
        System.out.printf("%-20s $%.2f\n", "Total:", total);
    }
}
```

INPUT;

```
Enter item name (or 'done' to finish): Apple
Enter item price: 1.25
Enter item quantity: 4
Enter item name (or 'done' to finish): Banana
Enter item price: 0.75
Enter item quantity: 6
Enter item name (or 'done' to finish): done
```

OUTPUT:

```
--- RECEIPT ---
Apple               4  x  $1.25 = $5.00
Banana              6  x  $0.75 = $4.50

Subtotal:           $9.50
Tax (10%):          $0.95
Discount (5% if > $100): $0.00
Total:              $10.45
```