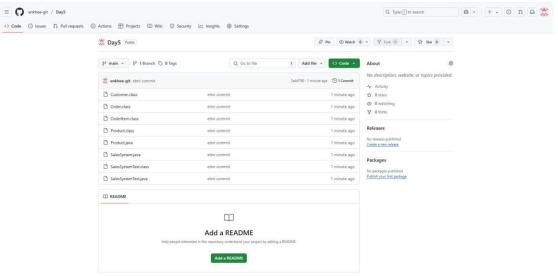
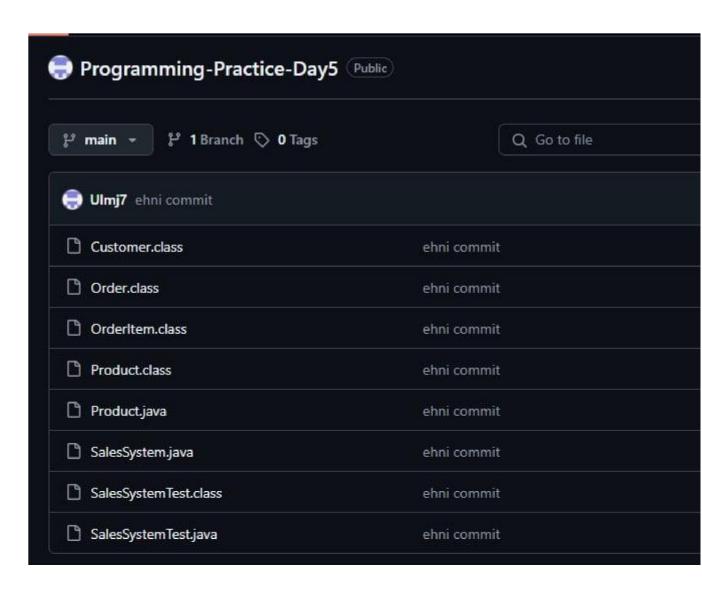
## В232270141 Э.Энхбат В232270805 Г.Үлэмж В232270051 Х.Шинэжаргал DAy5





Producy.java

```
public class Product {
   private String name;
   private double price;
   private int stockQuantity;
   public Product(String name, double price, int stockQuantity) {
        if (!name.matches("[a-zA-Za-яA-Я\\s]+")) { throw new
        IllegalArgumentException("Нэр зөвхөн үсэг байж
болно.");
       if (price <= 0) { throw new IllegalArgumentException("Үнэ
            эерэг тоо байх
ёстой.");
       if (stockQuantity < 0) { throw new</pre>
            IllegalArgumentException("Үлдэгдэл сөрөг байж
болохгүй.");
        }
   this.name = name; this.price = price;
   this.stockQuantity = stockQuantity;
   public String getName() { return name; } public double
   getPrice() { return price; } public int
   getStockQuantity() { return stockQuantity; }
   public void reduceStock(int qty) { if (qty < 0 || qty >
        stockQuantity) { throw new
       IllegalArgumentException("Буруу тоо ширхэг
байна.");
        stockQuantity -= qty;
   public void increaseStock(int qty) {
        if (qty < 0) {
            throw new IllegalArgumentException("Нэмэгдэх тоо эерэг байх
ёстой.");
       stockQuantity += qty;
   public String toString() { return name + " - " + price + "₹
        (" + stockQuantity + "
ширхэг)";
```

```
SalesSystem.java
```

```
import java.util.*; // Зөв List интерфейсийг оруулна
class Product { private
    String name; private
    double price; private int
    stockQuantity;
   public Product(String name, double price, int
        stockQuantity) { this.name = name; this.price =
        price;
        this.stockQuantity = stockQuantity; }
    public String getName() { return name; }
    public double getPrice() { return price; }
    public int getStockQuantity() { return stockQuantity; }
    public void reduceStock(int y) {
        qt stockQuantity -= qty;
  public void increaseStock(int qty) {
      stockQuantity += qty;
    public String toString() { return name + " - " + price + "₹
        (" + stockQuantity + "
ширхэг)";
class Customer { private String name,
    email, phone;
    public Customer(String name, String email, String phone) {
    this.name = name; this.email = email; this.phone = phone;
    public String getName() { return name; }
class OrderItem { private
    Product product; private
    int quantity;
    public OrderItem(Product product, int quantity) {
    this.product = product; this.quantity = quantity;
    public String toString() { return product.getName() +
       " - " + quantity + "ш";
```

```
customer; private
    List<OrderItem> items;
    public Order(Customer customer) { this.customer =
        customer; this.items = new ArrayList<>();
public boolean addItem(Product product, int quantity) { if
    (quantity <= product.getStockQuantity()) {</pre>
    items.add(new OrderItem(product, quantity));
    product.reduceStock(quantity); return true;
    } else {
        return false;
    public String getOrderDetails() {
        StringBuilder sb = new StringBuilder(); sb.append("Захиалагч:
 ).append(customer.getName()).append("\n"); for (OrderItem item : items)
        { sb.append(" - ").append(item).append("\n");
        } return sb.toString();
    }
SalesSystemTest.java
import org.junit.jupiter.api.Test; import static
org.junit.jupiter.api.Assertions.*; import
java.util.List;
public class SalesSystemTest {
@Test
public void testProductCreation() {
    Product p = new Product("Физик", 18000, 10);
    assertEquals("Физик", p.getName());
    assertEquals(18000, p.getPrice()); assertEquals(10,
    p.getStockQuantity());
@Test
public void testReduceAndIncreaseStock() {
    Product p = new Product("Математик", 20000, 5);
    p.reduceStock(2); assertEquals(3,
```

class Order { private Customer

p.getStockQuantity());

```
p.increaseStock(4); assertEquals(7,
   p.getStockQuantity());
   @Test
   public void testAddItemToOrderSuccessfully() {
       Product p = new Product("Tyh yxaah", 15000, 10);
       Customer c = new Customer("Baarap", "b@example.com",
"99112233");
       Order order = new Order(c);
   boolean added = order.addItem(p, 3);
   assertTrue(added); assertEquals(7,
   p.getStockQuantity());
@Test
public void testAddItemToOrderFailsWhenInsufficientStock() {
   Product p = new Product("Математик", 20000, 2);
        Customer c = new Customer("Capaa", "s@example.com", "99114455");
   Order order = new Order(c);
   boolean added = order.addItem(p, 5); assertFalse(added);
   assertEquals(2, p.getStockQuantity()); }
   @Test
```

```
public void testOrderDetailsFormatting() {
    Product p = new Product("Физик", 18000, 5);
    Customer c = new Customer("Болд", "b@example.com", "99001122");
    Order order = new Order(c); order.addItem(p, 2);

    String details = order.getOrderDetails();
    assertTrue(details.contains("Захиалагч: Болд"));
    assertTrue(details.contains("Физик - 2ш")); }
}
```