Dart Assignment (Lec3)

Assignment 1

1. Explain the difference between **Class** and **Object** with a real-life example.
2. What is a **Constructor**? What types of constructors does Dart support?
3. How does Dart handle **Access Modifiers**? Does it have `public/private/protected` like Java?
4. What is **Encapsulation**? How can you implement it in Dart using Getter and Setter?
5. Why should we use a Setter instead of making a variable `public`?

Assignment 2

Create a class `BankAccount` with:

- Private variable `_balance`
- Getter for balance
- Setter to add money (only if amount > 0)

Assignment 3

Create a class `User` with:

- Private variable `_username`
- Setter that validates (not empty) => search about it !!!!
- Getter to return username

Assignment 4

Create a simple **E-Commerce program**.

1. Class `Product`
   a. Private variables: `_id, _name, _price`
   b. Getter/Setter with validation (price > 0)
2. Class `Cart`
   a. List of products

       b. Methods: `addProduct()`, `removeProduct()`, `showCart()`

3. In `main()`
       a. Create 3 products
       b. Add 2 to the cart
       c. Print cart contents and total price