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// Dart OOP Example: Book, Employee, Appliance
void main() {
  print("== BOOK EXAMPLE ==");
  Book book1 = Book("Dart Essentials", "Firoj", 500);
  Book book2 = Book("Flutter in Action", "Belal", 750);

  book1.display();
  book2.display();

  print("\n== EMPLOYEE EXAMPLE ==");
  Manager manager = Manager("Firoj", 120000, "HR");
  Developer developer = Developer("Belal", 100000, "Dart");

  manager.displayInfo();
  developer.displayInfo();

  print("\n== APPLIANCE EXAMPLE ==");
  Fan fan = Fan();
  Light light = Light();

  fan.turnOn();
  fan.turnOff();

  light.turnOn();
  light.turnOff();
}

// ----- BOOK CLASS -----
class Book {
  String title;
  String author;
  double price;

  // Constructor
  Book(this.title, this.author, this.price);

  // Method to calculate discounted price
  double discountedPrice(double discountPercent) {
    return price - (price * discountPercent / 100);
  }

  // Display book details
  void display() {
    print("Title: $title");
    print("Author: $author");
    print("Original Price: \$\${price.toStringAsFixed(2)}");
  }
}

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        print("Discounted Price (10%): \$\${discountedPrice(10).toStringAsFixed(2)}");
        print("-----");
    }
}

// ----- EMPLOYEE CLASSES -----
class Employee {
    String name;
    double salary;

    Employee(this.name, this.salary);
}

class Manager extends Employee {
    String department;

    Manager(String name, double salary, this.department) : super(name, salary);

    void displayInfo() {
        print("Manager Name: $name");
        print("Salary: \$\${salary.toStringAsFixed(2)}");
        print("Department: $department");
        print("-----");
    }
}

class Developer extends Employee {
    String programmingLanguage;

    Developer(String name, double salary, this.programmingLanguage)
        : super(name, salary);

    void displayInfo() {
        print("Developer Name: $name");
        print("Salary: \$\${salary.toStringAsFixed(2)}");
        print("Programming Language: $programmingLanguage");
        print("-----");
    }
}

// ----- APPLIANCE CLASSES -----
abstract class Appliance {
    void turnOn();
    void turnOff();
}

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class Fan extends Appliance {  
    @override  
    void turnOn() {  
        print("Fan is now running");  
    }  
  
    @override  
    void turnOff() {  
        print("Fan has been turned off");  
    }  
}  
  
class Light extends Appliance {  
    @override  
    void turnOn() {  
        print("Light is switched on");  
    }  
  
    @override  
    void turnOff() {  
        print("Light is switched off");  
    }  
}
```