Dart Coding Exercises (OOP + Problem Solving)

Q1. Class with Constructor & Print - Create a class Animal with attributes type and sound. - Add a constructor to set the values. - In main(), create two animals (e.g., Dog, Cat) and print their sounds.

Q2. Class with Method - Create a class Student with attributes name and marks. - Add a method hasPassed() that returns true if marks >= 50, otherwise false. - In main(), create a student object and print whether they passed.

Q3. Multiple Objects in a List - Create a class Car with attributes brand and year. - In main(), create a list of 3 car objects. - Print only the cars made after 2015.

Q4. Update Attribute with a Method - Create a class Book with attributes title and pages. - Add a method addPages(int extraPages) that increases the pages. - In main(), create a book and use the method to update its pages, then print the result.

Q5. Constructor with Default Value - Create a class Person with attributes name and age (default = 18). - Create one person by setting both values and another using only the name. - Print both details.

Q6. Method Returning a Value - Create a class Rectangle with attributes width and height. - Add a method perimeter() that returns the perimeter. - In main(), create a rectangle and print its perimeter.

Q7. Object Interaction - Create a class Account with attributes owner and balance. - Add methods deposit(amount) and withdraw(amount). - In main(), create an account, deposit 500, withdraw 200, and print the final balance.

Q8. Longest and Shortest Word - Ask the user to input a sentence. - Print the longest word and the shortest word in the sentence. - Also print their lengths.

Q9. Even, Odd, and Statistics - Ask the user to enter 10 numbers in a list. - Print how many are even and how many are odd. - Calculate the total sum of all even numbers and all odd numbers separately. - Finally, print which group (even or odd) has the larger sum.