# Dart Assignments

## Assignment 1: Operators

1. Create a Dart program that takes two numbers (num1 and num2):  
- Print their sum, product, and difference.  
- Use relational operators (>, <, ==) to print which one is greater.  
2. Use logical operators (&&, ||, !) to check:  
- Print 'Both are positive' if both are positive.  
- Print 'At least one is positive' if at least one is positive.  
3. Try null-aware operators:  
- Declare String? name = null.  
- Print the name or 'Unknown' using ?? operator.  
- Print name?.length.

## Assignment 2: Control Flow (if/else, for, switch)

1. Create a program that reads a grade (0 to 100) and prints:  
- 'A' if between 90 and 100  
- 'B' if between 80 and 89  
- 'C' if between 70 and 79  
- 'F' if less than 70  
2. Create a loop from 1 to 10 and print only even numbers.  
3. Create a program that takes a number (1 to 7) and prints the weekday name using switch case.

## Assignment 3: Lists & Maps

1. Given list = [10, 20, 30, 40]:  
- Use for-in loop to print elements.  
- Use forEach to print each element multiplied by 2.  
- Use spread operator ... to merge with another list [50, 60].  
2. Create a Map:  
 var student = { 'name': 'Ali', 'age': 22, 'grade': 'A' };  
- Print all values using forEach.  
- Add a new key 'city: Cairo'.  
- Update grade to 'B'.

## Assignment 4: Functions

1. Create a function addNumbers that takes 2 numbers and prints their sum.  
2. Create a function using arrow syntax that returns the square of a number.  
3. Create a function greet with optional parameters name and city:  
- If name is null, print 'Hello Guest'.  
- If name exists but no city, print 'Hello Ali'.  
- If both exist, print 'Hello Ali from Cairo'.