

## 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'.