



COMSATS University Islamabad

Abbottabad Campus

Department of Computer Science

Lab MID TERM EXAMINATION Fall 2024

Max Marks: 30

Total Time Allowed: 1 hour

Class: BSE-6 Section: _____

Date: 19 Nov 2024

Subject: Mobile Application Development

Instructor: Ghanwa Batool

Student Name: _____

Registration #: _____

Question 1: Write a Dart program that performs the following tasks:

1. Create a `Calculator` class with methods for basic arithmetic operations: `add`, `subtract`, `multiply`, and `divide`, each accepting two integer parameters.
2. Add a function in the class that takes a `List<int>` of numbers and returns a `Map<String, int>` that includes the following information:
 - o "sum": sum of all elements.
 - o "product": product of all elements.
3. Use named optional parameters in the constructor of `Calculator` class to specify a default starting value for calculations. The starting value should affect all calculations.
4. In the `main` function:
 - o Create a `Calculator` object with a specific starting value.
 - o Use the calculator to perform all arithmetic operations.
 - o Pass a list of at least five numbers and display the results from the map.

[CLO-1, C2] [Marks: 15]

Question 2: Create a Dart program that does the following:

1. Define a class `Person` with attributes for `name` (string), `age` (int), and `address` (nullable string).
2. Include a constructor in the `Person` class that initializes these attributes and a named constructor that sets only the `name` attribute with a default value of age as 18 and address as null.
3. Write a method in the `Person` class called `displayInfo` that prints the person's details.
4. In the `main` function:
 - o Create an array of `Person` objects with at least three entries using different constructors.
 - o Print the details of each person in the array by iterating through it.

- Use the `continue` statement to skip printing the details of people under 18 years old.

[CLO-1, C2] [Marks: 15]