

Mobile Application Development (BSCS-6A)

Assignment#1

Topic: Dart Programming

Deadline:15/03/2023

1. Write a program to print your name in Dart.
2. Write a program to print **Hello I am "John Doe"** and **Hello I'am "John Doe"** with single and double quotes.
3. Declare **constant type** of int set value 7.
4. Write a program in Dart that finds simple interest. $\text{Formula} = (p * t * r) / 100$
5. Write a program to print a square of a number using user input.
6. Write a program to print full name of a from first name and last name using user input.
7. Write a program to find quotient and remainder of two integers.
8. Write a program to swap two numbers.
9. Write a program in Dart to remove all whitespaces from String.
10. Write a Dart program to convert String to int.
11. Suppose, you often go to restaurant with friends and you have to split amount of bill. Write a program to calculate split amount of bill. $\text{Formula} = (\text{total bill amount}) / \text{number of people}$
12. Suppose, your distance to office from home is 25 km and you travel 40 km per hour. Write a program to calculate time taken to reach office in minutes. $\text{Formula} = (\text{distance}) / (\text{speed})$.
13. Write a dart program to check if the number is odd or even.
14. Write a dart program to check whether a character is a vowel or consonant.
15. Write a dart program to check whether a number is positive, negative, or zero.
16. Write a dart program to print your name 100 times.
17. Write a dart program to calculate the sum of natural numbers.
18. Write a dart program to generate multiplication tables of 5.
19. Write a dart program to generate multiplication tables of 1-9.
20. Write a dart program to create a simple calculator that performs addition, subtraction, multiplication, and division.
21. Write a dart program to print 1 to 100 but not 41.
22. Write a program in Dart to print your own name using function.
23. Write a program in Dart to print even numbers between intervals using function.
24. Create a function called greet that takes a name as an argument and prints a greeting message. For example, greet("John") should print "Hello, John".
25. Write a program in Dart that generates random password.

26. Write a program in Dart that find the area of a circle using function. Formula: $\pi * r * r$
27. Write a program in Dart to reverse a String using function.
28. Write a program in Dart to calculate power of a certain number. For e.g $5^3=125$
29. Write a function in Dart named add that takes two numbers as arguments and returns their sum.
30. Write a function in Dart called maxNumber that takes three numbers as arguments and returns the largest number.
31. Write a function in Dart called isEven that takes a number as an argument and returns True if the number is even, and False otherwise.
32. Write a function in Dart called createUser with parameters name, age, and isActive, where isActive has a default value of true.
33. Write a function in Dart called calculateArea that calculates the area of a rectangle. It should take length and width as arguments, with a default value of 1 for both. Formula: length * width.
34. Create a list of names and print all names using list.
35. Create a set of fruits and print all fruits using loop.
36. Create a program that reads list of expenses amount using user input and print total.
37. Create an empty list of type string called days. Use the add method to add names of 7 days and print all days.
38. Add your 7 friend names to the list. Use where to find a name that starts with alphabet a.
39. Create a map with name, address, age, country keys and store values to it. Update country name to other country and print all keys and values.
40. Create a map with name, phone keys and store some values to it. Use where to find all keys that have length 4.
41. Create a simple to-do application that allows user to add, remove, and view their task.
42. Write a dart program to create a class Laptop with properties [id, name, ram] and create 3 objects of it and print all details.
43. Write a dart program to create a class House with properties [id, name, price]. Create a constructor of it and create 3 objects of it. Add them to the list and print all details.
44. Write a dart program to create an enum class for gender [male, female, others] and print all values.
45. Write a dart program to create a class Animal with properties [id, name, color]. Create another class called Cat and extends it from Animal. Add new properties sound in String. Create an object of a Cat and print all details.
46. Write a dart program to create a class Camera with private properties [id, brand, color, price]. Create a getter and setter to get and set values. Also, create 3 objects of it and print all details.
47. Create an interface called **Bottle** and add a method to it called **open()**. Create a class called **CokeBottle** and implement the Bottle and print the message "**Coke bottle is opened**". Add a factory constructor to **Bottle** and return the object

of **CokeBottle**. Instantiate **CokeBottle** using the factory constructor and call the **open()** on the object.

48. Create a simple quiz application using oop that allows users to play and view their score.
49. What is the purpose of the **?** operator in Dart null safety?
50. Create a **late** variable named **address**, assign a **US** value to it and print it.
51. How do you declare a nullable type in Dart null safety?
52. Write a program in a dart to create an age variable and assign a **null** value to it using **?**.
53. Write a function that accepts a nullable int parameter and returns 0 if the value is null using null coalescing operator **??**.
54. Write a function named **generateRandom()** in dart that randomly returns **100** or **null**. Also, assign a return value of the function to a variable named **status** that can't be null. Give status a default value of 0, if **generateRandom()** function returns null.