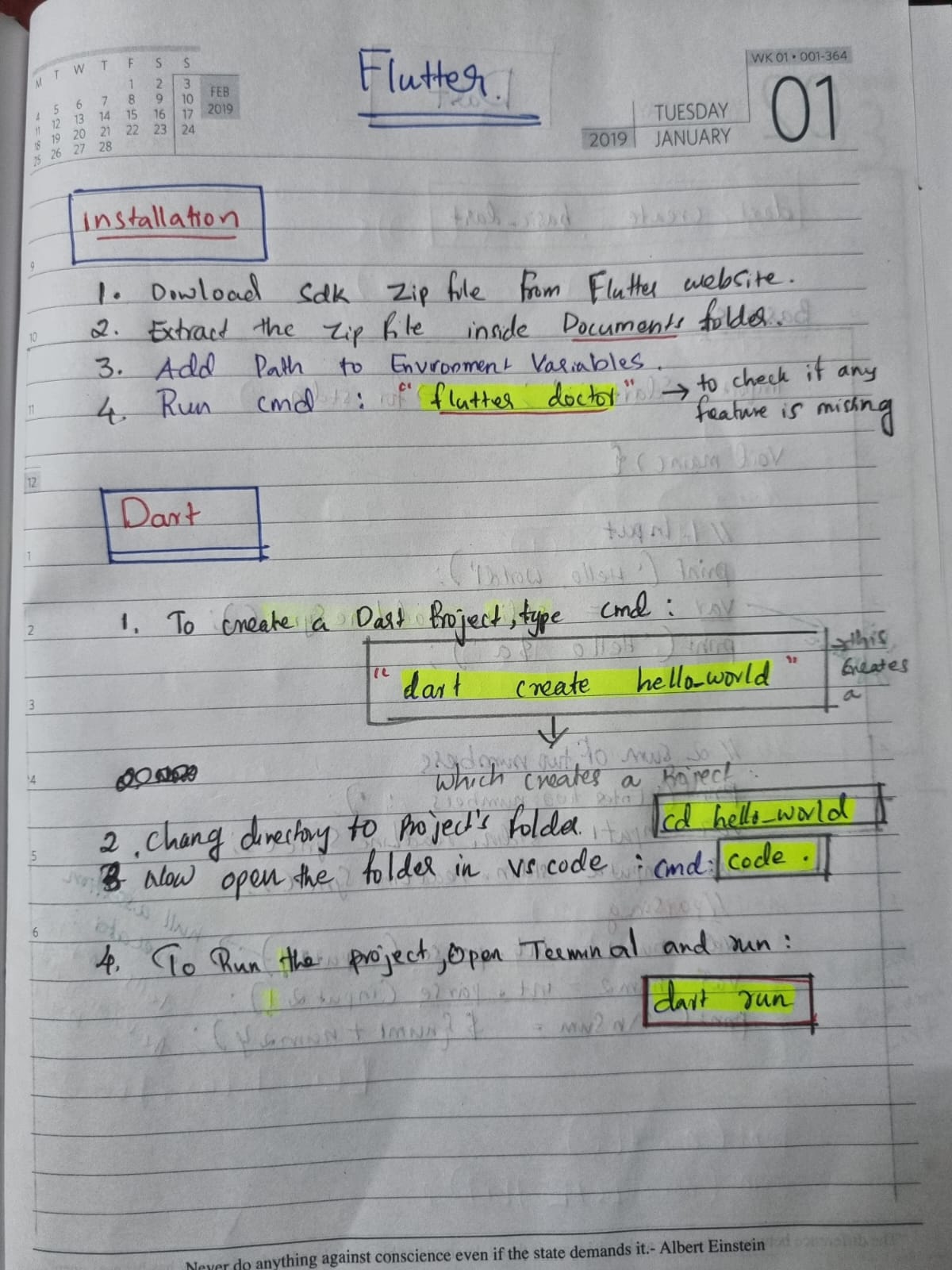
**-DART-**

Dart is an object-oriented language with C-style syntax which can optionally trans compile into JavaScript. It supports a varied range of programming aids like interfaces, classes, collections, generics, and optional typing.



# 1.BASICS

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| import 'package:p1\_basics/p1\_basics.dart' as p1\_basics;  import 'dart:io'; //for stdin  //BASICS  void main(){    //1.Input    print('Hello World!');    var a = stdin.readLineSync();    print('Hello $a');      //2.Sum of two Numbers    print('\nEnter two numbers : ');    var input1 = stdin.readLineSync();    var input2 = stdin.readLineSync();    //PARSING...    var num1 = int.parse(input1!); //null assertion operator : to tell the Dart compiler the value is not null.    var num2 = int.parse(input2!);    print('\nSum = ${num1 + num2}');    //3.DataTypes    int x = 10;    double y = 20.5;    //'num' datatype can store both int and double values    num n1 = 10;    num n2 = 20.5;    String myname = 'Anshad';    String details = " I'am Anshad ";    String details2 = " I\"m Anshad";  // \" escapes the double quote, so the string remains valid.    //Multiline String:    String address = '''house number 123    wayanad''';    print(myname.length); |

**Output**

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| PS E:\MCA\COURSES\Flutter\DART\_programs\p1\_basics> dart run  Building package executable...  Built p1\_basics:p1\_basics.  Hello World!  Anshad  Hello Anshad  Enter two numbers :  3  4  Sum = 7  6  PS E:\MCA\COURSES\Flutter\DART\_programs\p1\_basics> |

**LIST-Array**

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| --- |
| //4.List - act as ARRAY      List<int> numberList = [55,24,17,62]; //List    List<int> listToAdd = [0,1,2];      var dynamic\_list = ['Anshad',24,81.52];  //Dynamic List      //4.1:Find length of List    print(numberList.length);    //4.2:To find Element in a List use 'contains()' property :    if(numberList.contains(55)){      print('List contains 55');    }    else{      print('List doesnt contains 55');    }    //4.3:To Add an element to List :    numberList.add(90);    //4.4:To Remove an element from List :    numberList.removeAt(0); //remove element by index    numberList.removeLast(); //removes last element of list    //4.5: To Add list of elements to a list    numberList.addAll(listToAdd);    //4.6: Print    print(numberList);    print(numberList.join( " - ")); //Print uing seperator    //4.7 : Nested List    List<List<int>> nestedList = [      [1,2,3],      [4,5,6],      [7,8,9]    ];    print(nestedList);    print(nestedList[0][1]); |

Output

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| --- |
| 4  List contains 55  [24, 17, 62, 0, 1, 2]  24 - 17 - 62 - 0 - 1 - 2  [[1, 2, 3], [4, 5, 6], [7, 8, 9]]  2  PS E:\MCA\COURSES\Flutter\DART\_programs\p1\_basics> |

**LIST vs SET**

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| --- |
| //5.LIST VS SET    List<int> numberList2 = [1,1,1,2,2,3,5,8,8,8,9];    Set<int> numberSet = {1,1,1,2,2,3,5,8,8,8,9}; //SET does not support Duplicate values    print(numberList2);    print(numberSet); |

**Output:**

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| **[1, 1, 1, 2, 2, 3, 5, 8, 8, 8, 9]**  **{1, 2, 3, 5, 8, 9}** |

**Map - Dictionary**

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| --- |
| //6.MAP - act as Dictionary    Map<String,String> map1 = {      "name" : "Anshad",      "place" : "wayanad"    };    var dynamicMap = {      "name" : "Anshad Muhammad",      "age" : 24    };    print(map1["name"]);    print(dynamicMap["age"]); |

**Output:**

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| **Anshad**  **24** |

# Functions and Named Parameters

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| --- |
| import 'package:part3\_dartfunctions/part3\_dartfunctions.dart' as part3\_dartfunctions;  import 'dart:io';  //Function and Named Parameters(Required parameter,Option Parameter and Default Parameter)  void main(){    //1.1 : Function Without Return value and No Parameters    sum();    //1.2 : Function Without Return value ,But have Parameters    sumParams(5,7);    //1.3 : Function with Return value and Parameters    var sum1 = sumReturns(10, 15);    print(sum1);    //2.1 : Named Parameters : Required Parameter ,Option Parameter and Default parameters    sumReq(firstNumber : 100 , secondNumber :200 , third : 34);    //2.2  : Passing Function as Parameter - We can write this in Two ways:      // sumFunction(23 ,24 , sumParams);    //OR Using ANONYMOUS FUNCTION :    sumFunction(23 ,24 , (int f , int s){      print('Function sum = ${f+s}');    });    //3.1 : FUTURE FUNCTION    // sumFuture(12 , 12);    // print('After sumFuture');    sum2();    print('After future');  }  void sum(){    print(2+3);  }  void sumParams(int a , int b){    print('${a+b}');  }  int sumReturns(int a , int b){    return a+b;  }  void sumReq({required int firstNumber,required int secondNumber , int third=0}){    print(firstNumber + secondNumber + third) ;  }  //passed function as parameter:  void sumFunction(int a , int b ,void Function(int,int) customSum){    customSum(a,b);  }  //FUTURE FUNCTION :  Future<int> sumFuture(int a ,int b) async{    await Future.delayed(Duration(seconds: 3)); //use await -To show the implementation of Future function    //so that 3 seconds delayed before printing sum.    print('In Sum Future = ${a+b}');    return a+b;  }  Future<void> sum2()async{    await sumFuture(33, 44); //await can be used in future function    print('In just Sum');  } |

**Output :**

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| --- |
| **PS E:\MCA\COURSES\Flutter\DART\_programs\part3\_dartfunctions> dart run**  **Building package executable...**  **Built part3\_dartfunctions:part3\_dartfunctions.**  **5**  **12**  **25**  **334**  **Function sum = 47**  **After future**  **In Sum Future = 77**  **In just Sum**  **PS E:\MCA\COURSES\Flutter\DART\_programs\part3\_dartfunctions>** |

## **FUTURE FUNCTION**

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| --- |
| import 'dart:io';  //Using Main function as FUTURE FUNCTION:  Future<void> main() async{    await sum2();    print('After sum');  }  //FUTURE FUNCTION :  Future<int> sumFuture(int a ,int b) async{    await Future.delayed(Duration(seconds: 3)); //use await -To show the implementation of Future function    //so that 3 seconds delayed before printing sum.    print('In Sum Future = ${a+b}');    return a+b;  }  Future<void> sum2()async{    await sumFuture(33, 44); //await can be used in future function    print('In just Sum');  } |

**Output:**

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| **In Sum Future = 77**  **In just Sum**  **After sum**  **PS E:\MCA\COURSES\Flutter\DART\_programs\part3\_dartfunctions>** |

# Class and Object :

## **Const VS Final**