

## Dart Programming Class

**#Dart Notes** 

# Introduction

## **Dart Programming Language**

- The Dart programming language is a language developed by Google. It is widely used at Google and can be used for:
  - mobile app development using Flutter
  - web development (using Dart2JS)
  - server side (using various libraries and frameworks)

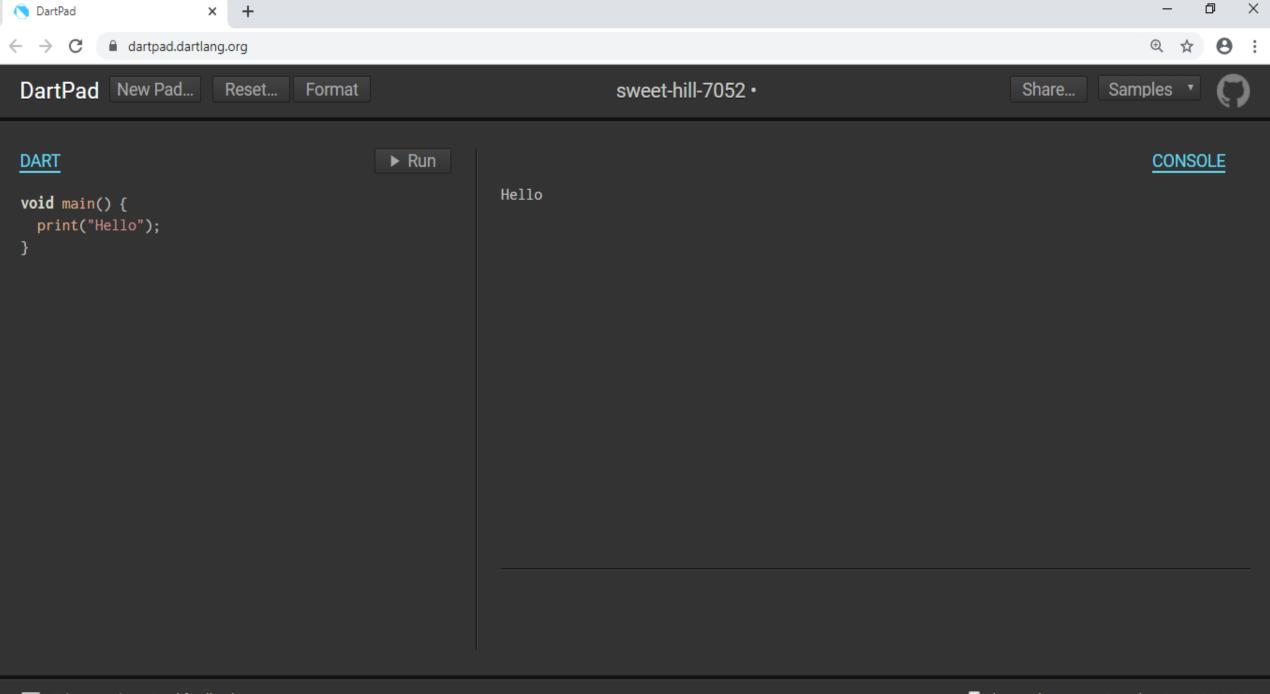
• The syntax of Dart is very close to Java and C++



#### **Environment**

- Executing Script Online with DartPad
- https://dartpad.dartlang.org/





## How to set up local environment?

- •Using the Text Editor like Windows Notepad, Notepad++...
- The source files are saved with the extension "filename.dart".



## Set Up For Local Environment

- •Installing the Dart SDK
  - https://www.dartlang.org/install/archive
  - http://www.gekorm.com/dart-windows/
- After completion of the SDK installation, set the PATH environment variable.
- Verifying the Installation using following command:-
  - Dart



#### **IDE For Dart**

- Android Studio
- IntelliJ IDEA
- WebStorm (and other JetBrains IDEs)
- Visual Studio Code
- Eclipse, etc...



## First Dart Program

```
void main()
{
    print("Hello");
}
```



## **Explanation**

- The main() function is a predefined method in Dart. This method acts as the entry point to the application.
- •print() is a predefined function that prints the specified string or value to the standard output



## Output

```
DartPad New Pad...
                       Reset...
                                Format
                                                                     sweet-hill-7052 •
DART
                        ▶ Run
                                    Hello
void main() {
  print("Hello");
```



## Execute a Dart Program via Terminal

- To execute a Dart program via the terminal -
  - Navigate to the path of the current project
  - Type the following command in the Terminal window
    - dart file\_name.dart



## Class Example

```
► Run
DART
                                       Hello World
class Demo {
   void method1() {
      print("Hello World");
void main() {
   Demo d = new Demo();
   d.method1();
```



## **Data Types**

- The Dart language supports the following types—
  - Numbers
  - Strings
  - Booleans
  - Lists
  - Maps



#### Number

It has two datatypes: Integer & Double

#### Strings

Strings represent a sequence of characters.

#### Boolean

• The Boolean data type represents Boolean values true and false. Dart uses the **bool** keyword to represent a Boolean value.



#### List

• A **List** is an ordered group of objects. The List data type in Dart is synonymous to the concept of an array in other programming languages.

#### Map

• The Map data type represents a set of values as key-value pairs.

#### Dynamic Type

• If the type of a variable is not explicitly specified, the variable's type is **dynamic**.



#### **Variables**

- A variable must be declared before it is used.
- Dart uses the var keyword to declare the variable.
- •Example :
  - var name = 'Akash Technolabs';



- Dart supports type-checking by prefixing the variable name with the data type.
- Type-checking ensures that a variable holds only data specific to a data type.
- •Example :-
  - String name = 'Akash Technolabs';

**Akash Technolabs** 

• int num = 10;



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## The dynamic keyword

- Variables declared without a static type are implicitly declared as dynamic.
- Variables can be also declared using the dynamic keyword in place of the var keyword.
- •Example:
  - dynamic name = "Akash Technolabs";



#### **Final and Const**

- The final and const keyword are used to declare constants.
- Dart prevents modifying the values of a variable declared using the final or const keyword.
- Syntax: final Keyword
  - final variable\_nameOR
  - final data\_type variable\_name



## **Example Of Final Keyword**

```
DART
                         ► Run
                                       10
void main() {
  final num1 = 10;
   print(num1);
```



## **Const Keyword**

- Syntax: const Keyword
  - const variable\_name
  - const data\_type variable\_name



## **Example Using Const Keyword**

```
▶ Run
DART
                                               Area of a circle is: 314
void main() {
 const pi = 3.14;
 var area = pi * 10 * 10;
 print("Area of a circle is : $area");
```



## Example

```
void main() {
  const num1 = 10;  //const variable
  num1 = 20;  //reinitialize value of num1
  print("Value is : $num1");
}
```

Note:- It will generate compile time error.



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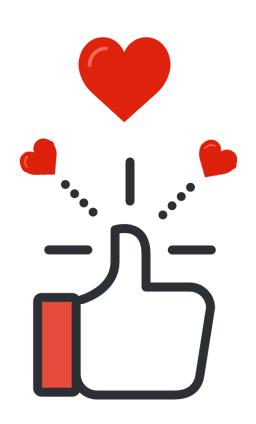
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https://www.justdial.com/Ahmedabad/Akash-Technolabs-Navrangpura-Bus-Stop-Navrangpura/079PXX79-XX79-170615221520-S5C4\_BZDET



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- Akashpadhiyar
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- +91 99786-21654



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