# SNS COLLEGE OF TECHNOLOGY

**Coimbatore-35**
**An Autonomous Institution**

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## DEPARTMENT OF COMPUTER APPLICATIONS

## 23CAT607- CROSS-PLATFORM APP DEVELOPMENT

I YEAR II SEM

# UNIT 2 – FLUTTER BASICS

TOPIC 3 – Introduction to Dart Programming & Variables

# Introduction to Dart Programming Language

Dart is an open-source programming language originally developed by Google. It is meant for both the server side as well as the user side.

The Dart VM and a utility dart2js which is meant for generating the Javascript equivalent of a Dart Script so that it can be run on those sites also which don't support Dart.

Dart is an Object-oriented language and is quite similar to that of Java Programming. Dart is extensively used to create single-page websites and web applications. The Best example of a dart application is Gmail.

# Features of Dart Programming Language

- ***Easy to Understand***
- ***Asynchronous Programming***
- ***Object Oriented Programming***
- ***Open Source***
- ***Browser Support***
- ***Type Safe***
- ***Flexible Compilation and Execution***

# Hello World Program in Dart Programming Language

**dart main()** function is a predefined method and acts as the entry point to the application

```
main() {
  print("Hello World! Hello Dart");
}
```

**Output:**
```
Hello World! Hello Dart
```

- ***main():*** *it is the symbol of main function that means the data entered in it is directly executed by compiler.*
- ***print("Hello World!")*** *: the role of print function is quite simple it just prints the data during the compilation of a program.*

*executing the code* ***dart file_name.dart****.*

# Dart – Variables

A variable name is the name assigned to the memory location where the user stores the data and that data can be fetched when required with the help of the variable by calling its variable name.

**Syntax:**

```
type variable_name;
```

To declare multiple variables of the same type:

```
type variable1_name, variable2_name, variable3_name, ....variableN_name;
```

**Types of Variables**

1.Static Variable

2.Dynamic Variable

3.Final or const

## Conditions to Write Variable Name

1. Variable names or identifiers can’t be the keyword.
2. Variable names or identifiers can contain alphabets and numbers.
3. Variable names or identifiers can’t contain spaces and special characters, except the underscore(_) and the dollar($) sign.
4. Variable names or identifiers can’t begin with a number.

## Keywords in Dart

Keywords in Dart

| | | | | |
|---|---|---|---|---|
| abstract | continue | new | this | as |
| false | true | final | null | default |
| throw | finally | do | for | try |
| catch | get | dynamic | rethrow | typedef |
| if | else | return | var | break |
| enum | void | int | String | double |
| bool | list | map | implements | set |
| switch | case | while | static | import |
| export | in | external | this | super |
| with | class | extends | is | const |
| yield | factory | | | |

**Example**

```
void main()
{
    // Declaring and initialising a variable
    int gfg1 = 10;

    // Declaring another variable
    double gfg2 = 0.2; // must declare double a value or it
                       // will throw error
    bool gfg3 = false; // must declare boolean a value or it
                       // will throw error

    // Declaring multiple variable
    String gfg4 = "0", gfg5 = "Geeks for Geeks";

    // Printing values of all the variables
    print(gfg1); // Print 10
    print(gfg2); // Print 0.2
    print(gfg3); // Print default string value
    print(gfg4); // Print default bool value
    print(gfg5); // Print Geeks for Geeks
}
```

**Output:**

```
10
0.2
false
0
```

# Dynamic Type Variable in Dart

This is a special variable initialised with keyword **dynamic**.

It is quite similar to **var** datatype in Dart

**Syntax:**

```
dynamic
variable_name;
```

```
void main()
{
   // Assigning value to geek variable
   dynamic geek = “Dynamic variable";

   // Printing variable geek
   print(geek);

   // Reassigning the data to variable and printing it
   geek = 3.14157;
   print(geek);
}
```

```
Dynamic variable
3.14157
```

# Final And Const Keyword in Dart

A final variable can only be set once and it is initialized when accessed.

**1. Final**

**Syntax for Final:**

```
// Without datatype
final variable_name

// With datatype
final data_type variable_name
```

```
void main() {
  // Assigning value to geek1 variable without datatype
  final geek1 = “yes";
  // Printing variable geek1
  print(geek1);

  // Assigning value to geek2 variable with datatype
  final String geek2 = “No";
  // Printing variable geek2
  print(geek2);
}
```

**Output:**

```
Yes
No
```

## 2. Const

A constant variable is a compile-time constant and its value must be known before the program runs.

**Syntax for Const:**

```
// Without datatype
const variable_name;

// With datatype
const data_type variable_name;
```

**Null Safety in Dart**

Default a variable can't be assigned Null value till it is defined that the variable can store Null value in it.

```
void main() {
int a=10;
a=NULL;
print(a);
}
```


# THANK YOU