Dart Functions

Function is a set of statements that take inputs, do some specific computation and produces output. Functions are created when certain statements are repeatedly occurring in the program and a function is created to replace them. Functions make it easy to divide the complex program into smaller sub-groups and increase the code reusability of the program.

Defining the function in Dart:

Dart provides us with the facility of using functions in its program.

Syntax:

```
return_type function_name ( parameters ) {
   // Body of function
   return value;
}
```

In the above syntax:

- function_name defines the name of the function.
- return_type defines the datatype in which output is going to come.
- return value defines the value to be returned from the function.

The function is called as:

Syntax:

```
function_name (argument_list);
```

In the above syntax:

- function_name defines the name of the function.
- argument list is the list of the parameter that the function requires.

Functions with Optional Parameter:

There are also optional parameter system in Dart which allows user to give some optional parameters inside the function.

Sr. No.	Parameter	Description
1.	Optional Positional Parameter	To specify it use square (‘[ ]’) brackets
2.	Optional Named parameter	When we pass this parameter it is mandatory to pass it while passing values. It is specify by curly(‘{ }’) brackets.
3.	Optional parameter with default values	Here parameters are assign with default values.

Recursive Function in Dart:

The recursive function is those functions in which function calls itself. It is a good way to avoid repeatedly calling the same function to get the output.

Example: Recursive function for fibonacci series.

```
/// Computes the nth Fibonacci number.
int fibonacci(int n)
{
    // This is recursive function as it calls itself
    return n < 2 ? n : (fibonacci(n - 1) + fibonacci(n - 2));
}

void main()
{
    var i = 20; // input
    print('fibonacci($i) = ${fibonacci(i)}');
}
```

Output: For input as 20

```
fibonacci(20) = 6765
```

Lambda Function in Dart:

They are the short way of representing a function in Dart. They are also called **arrow function**. But you should note that with lambda function you can return value for only one expression.

Example: Lambda function in dart.

```
// Lambda function in Dart

void gfg() => print("Welcome to Flutter");

void main()
{
    fig(); // Calling Lambda function
}
```

Output:

```
Welcome to Flutter
```