

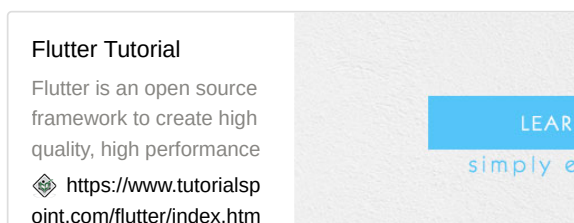
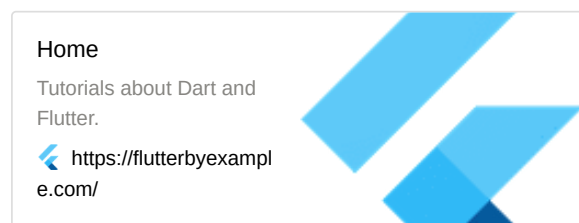
# Flutter 基礎 2 - Dart Comment, Number, Loops

## 參考資料 + 翻轉教室輔助影片



Flutter 基礎與實作 2 - Dart Comment, Number, Loops  
APP 程式設計實務 (2021 Fall)

<https://youtu.be/95QjbbRRO14>



## 課程設計

### Dart 基礎程式設計 一：Comment, Number, Loops

#### Dart – Comments

##### Types of Dart Comments:

1. Dart Single line Comment.
2. Dart Multiline Comment.
3. Dart Documentation Comment.

Dart - Comments - GeeksforGeeks  
In every programming language comments play an important role for a better understanding of the code in the  
<https://www.geeksforgeeks.org/dart-comments/>



Dart – Comments

## Dart Single line Comment.

```
// Dart entry point of an application
int main() {
  double area = 3.14 * 4 * 4;
  // It prints the area
  // of a circle of radius = 4
  print(area);

  return 0;
}
```

Console

50.24

## Dart Multiline Comment.

```
/* Dart entry point of an application */
int main() {
  var lst = [0, 6, 2, 5, 3, 3, 1, 3, 1];

  /*
  It prints
  the whole list
  at once
  */
  print(lst);

  return 0;
}
```

Console

[0, 6, 2, 5, 3, 3, 1, 3, 1]

## Dart Documentation Comment.

```
/// Returns true
/// if n is even
///
/// Returns false if n is odd
bool checkEven(n) {
  return (n % 2 == 0);
}

int main() {
  int n = 12;
  print('$n is even? ${checkEven(n)}');
  print('17 is even? ${checkEven(17)}');
  return 0;
}
```

Console

12 is even? true  
17 is even? false

Documentation

**bool checkEven(dynamic n)**

Returns true if n is even

Returns false if n is odd

## Basics of Numbers in Dart

- **int** - 整數

Basics of Numbers in Dart - GeeksforGeeks

- **double** - 浮點數

Like other languages, Dart Programming also supports numerical values as Number objects. The number in Dart Programming is the data type <https://www.geeksforgeeks.org/basics-of-numbers-in-dart/?ref=rp>



Basics of Numbers in Dart

```
void main() {  
  // declare an integer  
  int num1 = 2;  
  
  // declare a double value  
  double num2 = 1.5;  
  
  // print the values  
  print("$num1 ${num1.runtimeType}");  
  print("$num2 ${num2.runtimeType}");  
  print("${num1 * num2} ${num1 * num2.runtimeType}");  
  print("${num2 * num2} ${num2 * num2.runtimeType}");  
  print("${num2 * 3} ${num2 * 3.runtimeType}");  
}
```

Console

```
2   int  
1.5 double  
3   int  
2.25 double  
4.5 double
```

## Convert string to double and int

```
void main() {  
  var a = num.parse("1");  
  var b = num.parse("2.34");  
  var c = a + b;  
  
  print("a = $a ${a.runtimeType}");  
  print("b = $b ${b.runtimeType}");  
  print("c = $c ${c.runtimeType}");  
}
```

num class - dart:core library - Dart API

An integer or floating-point number. It is a compile-time error for any type other than int or double to attempt to extend or implement num. Returns a hash code for a

<https://api.dart.dev/stable/2.14.2/dart-core/num-class.html>

Documentation

**abstract class num implements Comparable<num>**

An integer or floating-point number.

It is a compile-time error for any type other than **int** or **double** to attempt to extend or implement **num**.

Console

```
a = 1 int  
b = 2.34 double  
c = 3.34 double
```

## Convert double to int

```
void main() {  
  print('(2.5).toInt() = ${(2.5).toInt()}');  
  print('(2.5).truncate() = ${(2.5).truncate()}');  
  print('(2.5).round() = ${(2.5).round()}');  
  print('(2.5).ceil() = ${(2.5).ceil()}');  
  print('(2.5).floor() = ${(2.5).floor()}');  
}
```

Console


```
(2.5).toInt() = 2
(2.5).truncate() = 2
(2.5).round() = 3
(2.5).ceil() = 3
(2.5).floor() = 2
```

## Dart – Loops

- for loop
- for... in loop
- for each loop

### Dart - Loops - GeeksforGeeks

Looping statement in Dart or any other programming language is used to repeat a certain set of

 <https://www.geeksforgeeks.org/dart-loops/?ref=rp>



Dart - Loops

### for loop

```
// Printing STUST 6 times
void main()
{
  for (int i = 0; i < 6; i++) {
    print('STUST $i');
  }
}
```

Console

```
STUST 0
STUST 1
STUST 2
STUST 3
STUST 4
STUST 5
```

### for ... in loop

```
void main() {
  var students = ['Joe', 'Mary', 'Kiven', 'Petter', 'Jane'];
  for (String name in students) {
    print(name);
  }
}
```

Console

```
Joe
Mary
Kiven
Petter
Jane
```

### for each ... loop

```
void main() {  
  var ns = [1, 2, 3, 4, 5];  
  List l = [];  
  ns.forEach((var x) => l.add(x*x));  
  print('ns = $ns');  
  print('l = $l');  
}
```

Console

```
ns = [1, 2, 3, 4, 5]  
l = [1, 4, 9, 16, 25]
```



**What about other Decision Making statements : if else, switch case**

**More loops : while, do while**

更詳細的操作說明，請參閱『[翻轉教室輔助影片](#)』 ...

