

Dart Syntax Cheatsheet

Thomas Boxall
up2108121@myport.ac.uk

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1 Basics of Dart

entry point to a Dart program is the main function:

```
void main(){  
  
}
```

print to the console: `print("hello world");`
comments start with: `//`

2 Types

declare an integer variable: `int imAnInt = 12;`
declare a double variable: `double imADouble = 6.9;`
declare a string variable: `String imAString = "Cheese";`
declare a constant: `const pi = 3.14;`
declare a boolean: `bool dartIsBetterThanPython = true;`
declare a num: `num iCanBeDoubleOrInt = 4;`

2.1 Casting

cast to a string: `String wasANumber = numberVariable.toString();`
cast a double to string with fixed decimal places:
`String wasADouble = doubleVariable.toStringAsFixed(numDecimalPlaces);`
cast a string to an integer: `int wasAString = int.parse(stringVariable);`
cast a string to a double: `double wasAString = double.parse(stringVariable);`
cast an int or num to double: `double wasAnInt = intVariable.toDouble();`
cast a double or num to int: `int wasADouble = doubleVariable;`
or `int wasADouble = doubleVariable.toInt();`
cast a double or num to int and round: `int wasADouble = doubleVariable.round();`
cast a double or num to int and round to upper bound: `int wasADouble = doubleVariable.ceil();`
cast a double or num to int and round to lower bound: `int wasADouble = doubleVariable.floor();`

3 Math

import math library: `import 'dart:math';`
calculate power of number: `pow(base, exponent)`
calculate square root: `sqrt(numberToSquareRoot)`

4 Strings

concatenate two strings: `print("String One" + "String Two");`
interpolate a non-string into a string: `print("I'm a string, $andImAndIntVariable");`
interpolate a non-string into a string and apply an operation to it: `print("String: ${intVariable * 2}");`
use string indexing to access the 1st character in a string: `print(stringVariable[0]);`
use substring to access particular characters in a string:
`print(stringVariable.substring(start, endOptional));`
get the length of a string: `print(stringVariable.length);`
get the index of a particular character in a string: `print(stringVariable.indexOf(queryChar));`
split a string and remove the pattern: `stringVariable.split(pattern)`
convert all characters in the string to lower case: `stringVariable.toLowerCase()`
convert character to ASCII value: `stringVariable.codeUnitAt(position)`

5 Functions

general structure to a Dart function:

```
returnType functionName(param1Type paramOne, ...){  
  
}
```

a function made of an expression can be simplified:

```
returnType functionName (param1Type, param1) => expressionToReturn;
```

a function can be passed as a parameter to another function using `returnType Function(paramsType) name` which can then be called using `name()`, passing any parameters into it.

6 Program Flow Control

if statements have the following structure:

```
if (statement){  
  
} else if (anotherStatement){  
  
} else{  
  
}
```

for loops have the following structure:

```
for (loopVarStartPoint; loopVarEndPoint; loopVarIteration){  
  
}
```

while statements have the following structure:

```
while(statement){  
  
}
```