

# Numbers

In this lesson, you will learn about Dart's number types.

## We'll cover the following

- The num Type
- Integers
- Doubles

## The `num` Type #

If we want a variable that has a number value, we will declare it using the `num` data type.

The basic syntax is as follows:

`num variableName = Number Literal`

OR

`num variableName = numberVariable`

Let's look at an example.

```
main() {  
  num firstNumber = 5;  
  num secondNumber = 5.1;  
  num thirdNumber = firstNumber;  
  
  // Driver Code  
  print(firstNumber);  
  print(secondNumber);  
  print(thirdNumber);  
}
```



Dart numbers are further divided into two subtypes:

1. integers (`int`)
2. doubles (`double`)

Both `int` and `double` are subtypes of `num`.

Let's look at each type in a bit more detail below.

## Integers #

**Integers** are whole numbers without a decimal point.

In the code snippet below, we are declaring two variables of type `int`. The first variable is a simple integer while the second variable is a hex number.

12 67  
104 8 -9  
5 -73

The basic syntax is as follows:

`int variableName = Integer Literal`

OR

`int variableName = integerValue`

Let's look at an example.

```
main() {  
  int simpleInteger = 1;  
  int hex = 0xDA34F;  
  int integer = simpleInteger;  
  
  // Driver Code  
  print(simpleInteger);  
  print(hex);  
  print(integer);  
}
```



# Doubles #

**Doubles** are numbers that include a decimal point.

In the code snippet below, we are declaring two variables of type `double`. The first variable is a simple double while the second variable is an exponent.

12.9 67.4  
104.01 8.36 -9.12  
5.2 -73.0

The basic syntax is as follows:

**double** **variableName** = Double Literal

Let's look at an example.

```
main() {  
  double simpleDouble = 1.1;  
  double exponents = 1.42e5;  
  
  // Driver Code  
  print(simpleDouble);  
  print(exponents);  
}
```

As of **Dart 2.1**, integer literals are automatically converted to doubles when necessary. When you run the code snippet below, the output displayed will be `1.0` rather than `1`.

```
main() {  
  double integerLiteral = 1;  
  
  print(integerLiteral);  
}
```



If the above code is run in a Dart version older than **2.1**, the compiler will give an error.

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In the next lesson, we will go over strings.