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# How to store whole numbers

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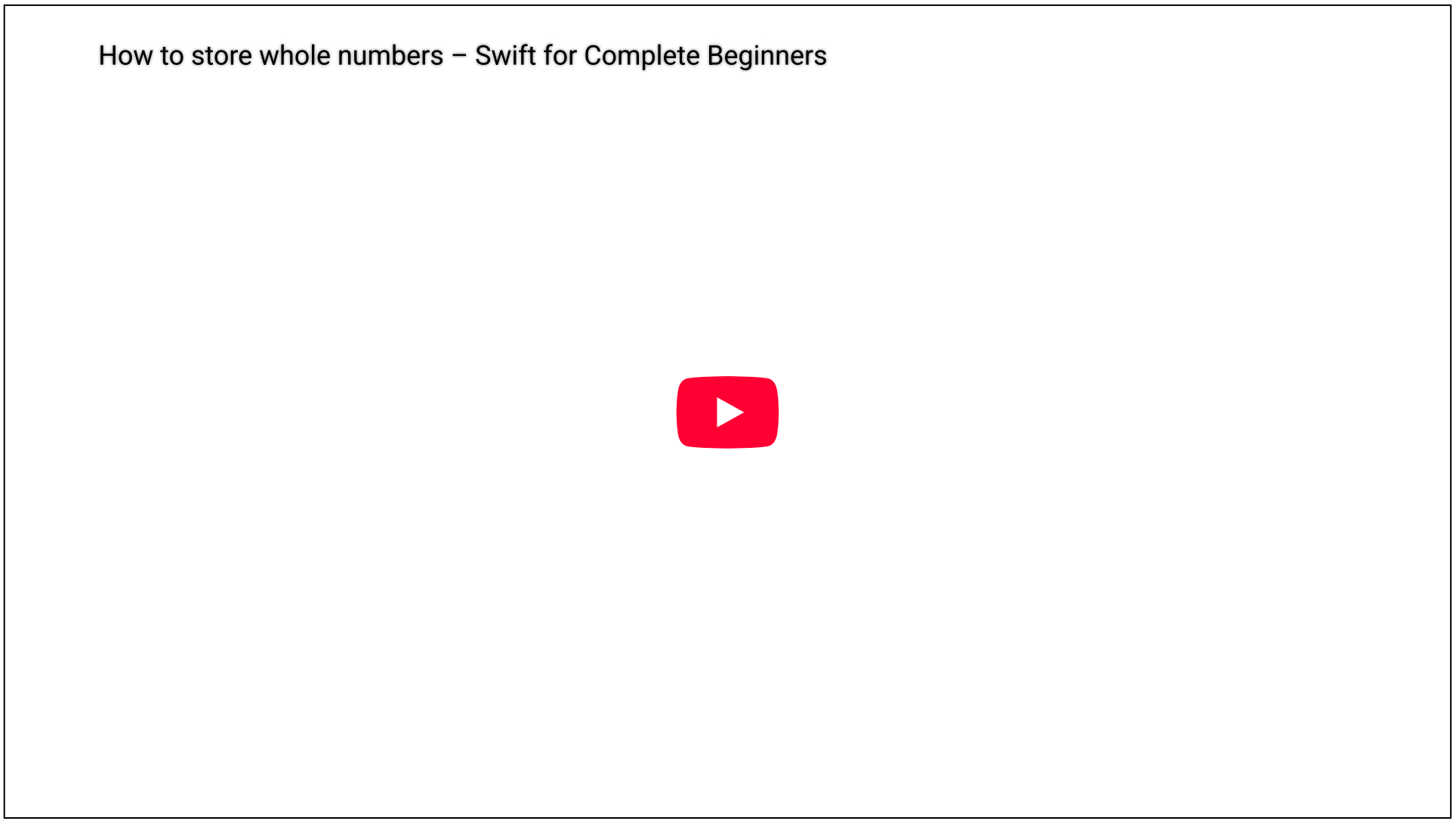
*Updated for Xcode 16.4*




When you're working with whole numbers such as 3, 5, 50, or 5 million, you're working with what Swift calls *integers*, or `Int` for short – "integer" is originally a Latin word meaning "whole", if you were curious.

Making a new integer works just like making a string: use `let` or `var` depending on whether you want a constant or variable, provide a name, then give it a value. For example, we could create a `score` constant like this:

```
let score = 10
```

Integers can be really big – past billions, past trillions, past quadrillions, and well into *quintillions*, but they they can be really small too – they can hold *negative* numbers up to quintillions.

When you're writing out numbers by hand, it can be hard to see quite what's going on. For example, what number is this?

```
let reallyBig = 100000000
```

If we were writing that out by hand we'd probably write "100,000,000" at which point it's clear that the number is 100 million. Swift has something similar: you can use underscores, `_`, to break up numbers however you want.

So, we could change our previous code to this:

```
let reallyBig = 100_000_000
```

Swift doesn't actually care about the underscores, so if you wanted you could write this instead:

```
let reallyBig = 1_00__00___00____00
```

The end result is the same: **reallyBig** gets set to an integer with the value of 100,000,000.

Of course, you can also create integers from other integers, using the kinds of arithmetic operators that you learned at school: **+** for addition, **-** for subtraction, ***** for multiplication, and **/** for division.

For example:

```
let lowerScore = score - 2
let higherScore = score + 10
let doubledScore = score * 2
let squaredScore = score * score
let halvedScore = score / 2
print(score)
```

Rather than making new constants each time, Swift has some special operations that adjust an integer somehow and assigns the result back to the original number.

For example, this creates a **counter** variable equal to 10, then adds 5 more to it:

```
var counter = 10
counter = counter + 5
```

Rather than writing **counter = counter + 5**, you can use the shorthand operator **+=**, which adds a number directly to the integer in question:

```
counter += 5
print(counter)
```

That does exactly the same thing, just with less typing. We call these *compound assignment operators*, and they come in other forms:

```
counter *= 2
print(counter)
counter -= 10
print(counter)
counter /= 2
print(counter)
```

Before we're done with integers, I want to mention one last thing: like strings, integers have some useful functionality attached. For example, you can call **isMultiple(of:)** on an integer to find out whether it's a multiple of another integer.

So, we could ask whether 120 is a multiple of three like this:

```
let number = 120
print(number.isMultiple(of: 3))
```

I'm calling `isMultiple(of:)` on a constant there, but you can just use the number directly if you want:

```
print(120.isMultiple(of: 3))
```



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