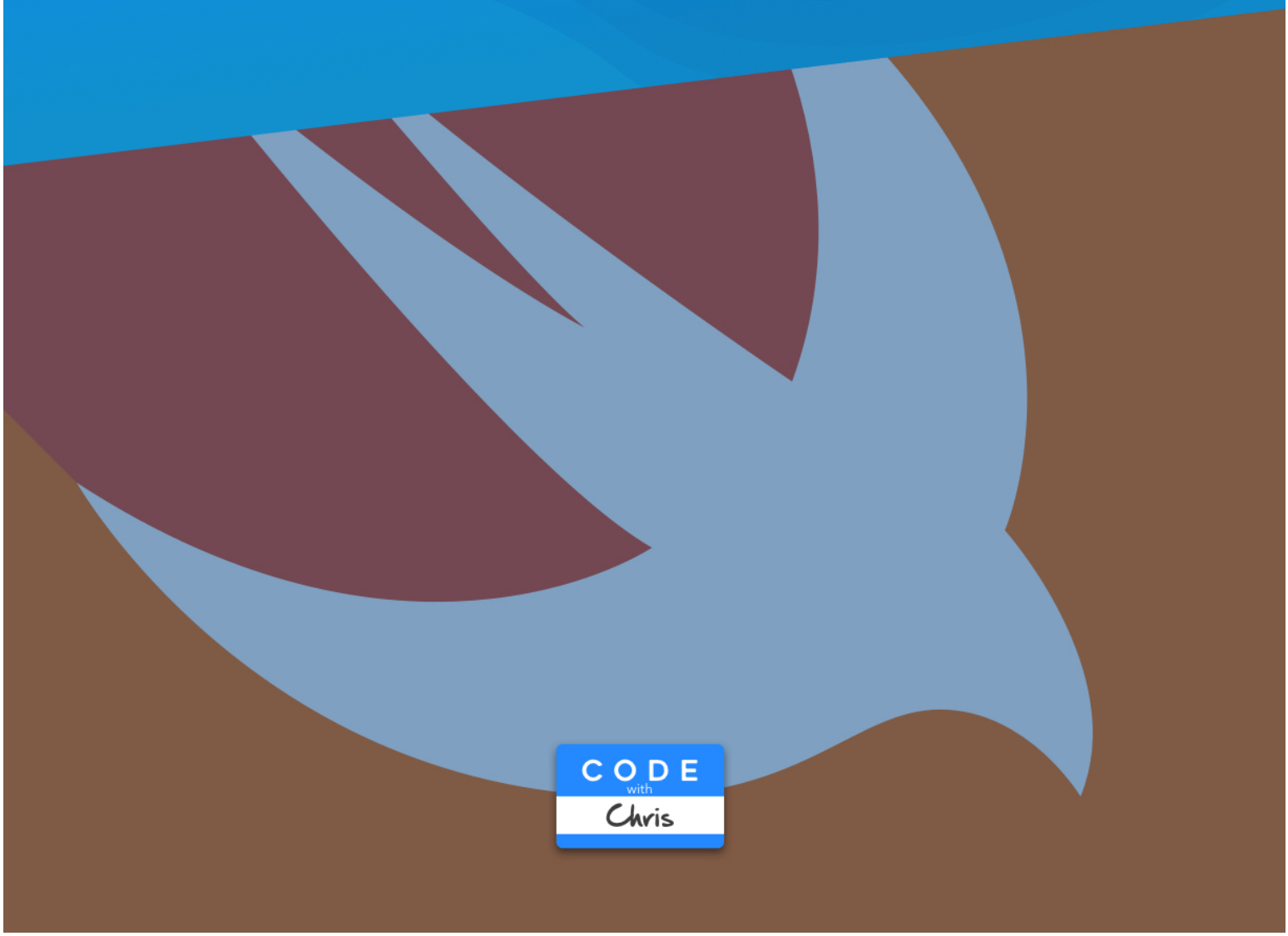
HOW TO MAKE AN APP FOR BEGINNERS

Lesson 5
Swift Basics Part 1

RECAP NOTES AND EXERCISES



CODE with Chris

Key Concepts

1. Variables and Constants are used for keeping track of data

2. Use the "var" keyword followed by a variable name to declare a new variable

```
// Variable declaration
var myVar = “Hello World”
```

3. Then use the "=" sign to assign the data to the variable

4. You can reassign data to a variable without redeclaring it using the "var" keyword

5. Constants are declared using the "let" keyword followed by the name of the constant.

```
// Constant declaration
let myVar = “Hello World”
```

6. Constants are like variables except that once you assign data to the constant, you can't assign a different piece of data to it.

7. There are different types of data (Bool, String, Int, Float, Double)

8. Bool is true/false. Useful for representing data with only two options

9. Int are whole numbers positive and negative, including zero

10. Float and Double are decimal numbers. Double is more precise.

11. Strings are pieces of text

12. Variables and constants have a data type and can only be assigned data of that type.

13. You can either state the data type explicitly when you declare the variable/constant or you can let the variable/constant set it's own data type based on data type of the first thing you assign to it.

Exercises

This exercise continues from the Swift Basics taught in lesson 5.

In this worksheet, you'll be introduced to the many math operations you can do in the Swift programming language.

Step 1

We're going to be trying out some math operations in a Swift Playground.

Open Xcode and create a new playground
(File Menu->New->Playground).

From the list of Playground templates, just select "Blank"

Step 2

Type out the following basic math operations:

```
// Addition
var a = 20 + 5

// Subtraction
var b = 20 - 5

// Multiplication
var c = 20 * 5

// Division
var d = 20 / 5

// Modulus
var e = 20 % 2
```

You can even use the math operators with variables like this:
(Type this out in your playground too)

```
// Equations with variables
var f = (a * b) + (c / d)
```

Step 3

If you want to increment a variable, you can use it as part of the equation (the variable must already have a value) and reassign the new result to itself. Try the following lines in your Playground:

```
// Increment the variable
f = f + 1

// or...
f += 1

// Decrement the variable
f -= 1

// Multiply the variable
f *= 2

// Divide the variable
f /= 4
```

Step 4

Here are some additional math operators to try in your playground:

```
// Additional operators

// Absolute number
var g = abs(-1)

// Ceiling
var h = ceil(1.8)

// Floor
var i = floor(1.4)

// Square Root
var j = sqrt(36)

// Power
var k = pow(2, 4)
```