5. Strings

A string is an ordered collection of characters, such as `"We ❤ Swift"` or `"eat, sleep, code, repeat!"`. In Swift strings are represented by the `String` type which is a collection of values of `Character` type.

Creating strings

You can include predefined `String` values within your code as string literals. A string literal is a fixed sequence of textual characters surrounded by a pair of double quotes ("").

```
let aString = "Hello"
```

Take note of a special case of string, the empty string.

```
var emptyString = "" // empty string literal
```

You can create a new string by concatenating two strings using the `+` operator.

```
let newString = "Hello" + " swift lovers" // "Hello swift lovers"
```

String interpolation can also be used to combine strings. By using the `\(<value>)` syntax inside a string literal.

```
let bat = "BAT"
let man = "MAN"

// "BATMAN" - \(bat) will be replaced with "BAT" and \(man) with "MAN"
let batman = "\(bat)\(man)"

print("\(bat) + \(man) = \(batman)")
// "BAT + MAN = BATMAN"
```

Characters

In some cases you will want to work with the individual characters that make up the string. To do that you can use the **for-in** syntax. A string exposes the list of characters with the `characters` property.

```
var someString = "this string has 29 characters"
```

```
for character in someString.characters {
    // to convert a Character into a String use string interpolation
    // you will need to do this in order to compare characters
    var characterAsString = "\(character)"

    print(characterAsString)
}
```

To see how many character a string has we can use the `count` property on the `characters` property of the string.

```
var string = "This string has 29 characters"
print(string.characters.count) // 29
```

Comparing

You can compare string using the same operators as numbers, but usually you only care about equality.

```
"We ❤ Swift" == "We ❤ Swift" // true
"We ❤ Swift" == "we ❤ swift" // false - string comparison is case sensitive

"We ❤ Swift" != "We ❤ Swift" // false
"We ❤ Swift" != "we ❤ swift" // true
```