2\_1\_2\_12\_Section\_Summary

**Key takeaways**

1. **Literals** are notations for representing some fixed values in code. Python has various types of literals - for example, a literal can be a number (numeric literals, e.g., 123), or a string (string literals, e.g., "I am a literal.").

2. The **binary system** is a system of numbers that employs *2* as the base. Therefore, a binary number is made up of 0s and 1s only, e.g., 1010 is *10* in decimal.

Octal and hexadecimal numeration systems, similarly, employ *8* and *16* as their bases respectively. The hexadecimal system uses the decimal numbers and six extra letters.

3. **Integers** (or simply **int**s) are one of the numerical types supported by Python. They are numbers written without a fractional component, e.g., 256, or -1 (negative integers).

4. **Floating-point** numbers (or simply **float**s) are another one of the numerical types supported by Python. They are numbers that contain (or are able to contain) a fractional component, e.g., 1.27.

5. To encode an apostrophe or a quote inside a string you can either use the escape character, e.g., 'I\'m happy.', or open and close the string using an opposite set of symbols to the ones you wish to encode, e.g., "I'm happy." to encode an apostrophe, and 'He said "Python", not "typhoon"' to encode a (double) quote.

6. **Boolean values** are the two constant objects True and False used to represent truth values (in numeric contexts 1 is True, while 0 is False.

**EXTRA**

There is one more, special literal that is used in Python: the None literal. This literal is a so-called NoneType object, and it is used to represent **the absence of a value**. We'll tell you more about it soon.

**Exercise 1**

What types of literals are the following two examples?

"Hello ", "007"  
Check

They're both strings/string literals.

**Exercise 2**

What types of literals are the following four examples?

"1.5", 2.0, 528, False  
Check

The first is a string, the second is a numerical literal (a float), the third is a numerical literal (an integer), and the fourth is a boolean literal.

**Exercise 3**

What is the decimal value of the following binary number?

1011  
Check

It's 11, because (2\*\*0) + (2\*\*1) + (2\*\*3) = 11