2\_1\_4\_11\_Section\_Summary

**Key takeaways**

1. A **variable** is a named location reserved to store values in the memory. A variable is created or initialized automatically when you assign a value to it for the first time. (2.1.4.1)

2. Each variable must have a unique name - an **identifier**. A legal identifier name must be a non-empty sequence of characters, must begin with the underscore(\_), or a letter, and it cannot be a Python keyword. The first character may be followed by underscores, letters, and digits. Identifiers in Python are case-sensitive. (2.1.4.1)

3. Python is a **dynamically-typed** language, which means you don't need to *declare* variables in it. (2.1.4.3) To assign values to variables, you can use a simple assignment operator in the form of the equal (=) sign, i.e., var = 1.

4. You can also use **compound assignment operators** (shortcut operators) to modify values assigned to variables, e.g., var += 1, or var /= 5 \* 2. (2.1.4.8)

5. You can assign new values to already existing variables using the assignment operator or one of the compound operators, e.g.: (2.1.4.5)

var = 2

print(var)

var = 3

print(var)

var += 1

print(var)

6. You can combine text and variables using the + operator, and use the print() function to output strings and variables, e.g.: (2.1.4.4)

var = "007"

print("Agent " + var)

**Exercise 1**

What is the output of the following snippet?

var = 2

var = 3

print(var)  
Check

3

**Exercise 2**

Which of the following variable names are illegal in Python?

my\_var

m

101

averylongvariablename

m101

m 101

Del

del  
Check

my\_var

m

101 # incorrect (starts with a digit)

averylongvariablename

m101

m 101 # incorrect (contains a space)

Del

del # incorrect (is a keyword)

**Exercise 3**

What is the output of the following snippet?

a = '1'

b = "1"

print(a + b)  
Check

11

**Exercise 4**

What is the output of the following snippet?

a = 6

b = 3

a /= 2 \* b

print(a)  
Check

1.0  
2 \* b = 6  
a = 6 → 6 / 6 = 1.0