**Key takeaways**

1. There are two types of loops in Python: while and for:

* the while loop executes a statement or a set of statements as long as a specified boolean condition is true, e.g.:

# Example 1

while True:

print("Stuck in an infinite loop.")

# Example 2

counter = 5

while counter > 2:

print(counter)

counter -= 1

* the for loop executes a set of statements many times; it's used to iterate over a sequence (e.g., a list, a dictionary, a tuple, or a set - you will learn about them soon) or other objects that are iterable (e.g., strings). You can use the for loop to iterate over a sequence of numbers using the built-in range function. Look at the examples below:

# Example 1

word = "Python"

for letter in word:

print(letter, end="\*")

# Example 2

for i in range(1, 10):

if i % 2 == 0:

print(i)

2. You can use the break and continue statements to change the flow of a loop:

* You use break to exit a loop, e.g.:

text = "OpenEDG Python Institute"

for letter in text:

if letter == "P":

break

print(letter, end="")

* You use continue to skip the current iteration, and continue with the next iteration, e.g.:

text = "pyxpyxpyx"

for letter in text:

if letter == "x":

continue

print(letter, end="")

**Exercise 1**

Create a for loop that counts from 0 to 10, and prints odd numbers to the screen. Use the skeleton below:

for i in range(1, 11):

# line of code

# line of code  
Check

Sample solution:  
for i in range(0, 11):

if i % 2 != 0:

print(i)

**Exercise 2**

Create a while loop that counts from 0 to 10, and prints odd numbers to the screen. Use the skeleton below:

x = 1

while x < 11:

# line of code

# line of code

# line of code  
Check

Sample solution:  
x = 1

while x < 11:

if x % 2 != 0:

print(x)

x += 1

**Exercise 3**

Create a program with a for loop and a break statement. The program should iterate over characters in an email address, exit the loop when it reaches the @ symbol, and print the part before @ on one line. Use the skeleton below:

for ch in "john.smith@pythoninstitute.org":

if ch == "@":

# line of code

# line of code  
Check

Sample solution:  
for ch in "john.smith@pythoninstitute.org":

if ch == "@":

break

print(ch, end="")

**Exercise 4**

Create a program with a for loop and a continue statement. The program should iterate over a string of digits, replace each 0 with x, and print the modified string to the screen. Use the skeleton below:

for digit in "0165031806510":

if digit == "0":

# line of code

# line of code

# line of code  
Check

Sample solution:  
for digit in "0165031806510":

if digit == "0":

print("x", end="")

continue

print(digit, end="")