**LEARN PYTHON: FILES**

**Reading a File**

Computers use file systems to store and retrieve data. Each [file](https://www.codecademy.com/resources/docs/python/files?page_ref=catalog) is an individual container of related information. If you’ve ever saved a document, downloaded a song, or even sent an email you’ve created a file on some computer somewhere. Even **script.py**, the Python program you’re editing in the learning environment, is a file.

So, how do we interact with files using Python? We’re going to learn how to read and write different kinds of files using code. Let’s say we had a file called **real\_cool\_document.txt** with these contents:

**real\_cool\_document.txt**

Wowsers!

We could read that file like this:

**script.py**

with open('real\_cool\_document.txt') as cool\_doc:  
  cool\_contents = cool\_doc.read()  
print(cool\_contents)

This opens a file object called cool\_doc and creates a new indented block where you can read the contents of the opened file. We then read the contents of the file cool\_doc using cool\_doc.read() and save the resulting string into the variable cool\_contents. Then we print cool\_contents, which outputs the statement Wowsers!.

**Instructions**

**1.**

Use with to open the file **welcome.txt**. Save the file object as text\_file.

Checkpoint 2 Passed

Hint

Use this syntax to open a file:

with open('filename.txt') as file\_object:  
  # indented block here

**2.**

Read the contents of text\_file and save the results in text\_data.

Checkpoint 3 Passed

Hint

Use this syntax on a file object to read the contents of the file into a variable:

file\_string = file\_object.read()

**3.**

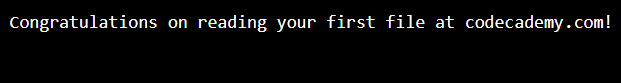
Print out text\_data.

**script.py**

with open('welcome.txt') as text\_file:

  text\_data = text\_file.read()

print(text\_data)

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**Iterating Through Lines**

When we read a file, we might want to grab the whole document in a single string, like .read() would return. But what if we wanted to store each line in a variable? We can use the .readlines() function to read a text file line by line instead of having the whole thing. Suppose we have a file:

**keats\_sonnet.txt**

To one who has been long in city pent,  
’Tis very sweet to look into the fair  
And open face of heaven,—to breathe a prayer  
Full in the smile of the blue firmament.

**script.py**

with open('keats\_sonnet.txt') as keats\_sonnet:  
  for line in keats\_sonnet.readlines():  
    print(line)

The above script creates a temporary file object called keats\_sonnet that points to the file **keats\_sonnet.txt**. It then iterates over each line in the document and prints the entire file out.

**Instructions**

**1.**

Using a with statement, create a file object pointing to the file **how\_many\_lines.txt**. Store that file object in the variable lines\_doc.

Checkpoint 2 Passed

Hint

Remember to open a file using with syntax:

with open('filename.txt') as file\_object:  
  # indented block here

**2.**

Iterate through each of the lines in lines\_doc.readlines() using a for loop.

Inside the for loop print out each line of **how\_many\_lines.txt**.

Checkpoint 3 Passed

Hint

You can use the following syntax to print out each line of a file:

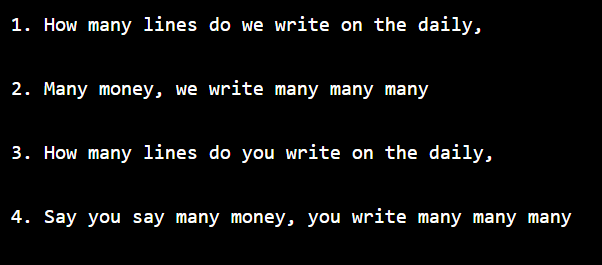
for line in file\_object.readlines():  
  print(line)

**script.py**

with open('how\_many\_lines.txt') as lines\_doc:

  for line in lines\_doc.readlines():

    print(line)

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