



Write and Save Files in Python

Estimated time needed: **15** minutes

Objectives

After completing this lab you will be able to:

- Write to files using Python libraries

Table of Contents

- Writing Files
- Copy a File

Writing Files

We can open a file object using the method `write()` to save the text file to a list. To write the mode, argument must be set to write w. Let's write a file Example2.txt with the line: "This is line A"

```
[ ]: # Write Line to file

with open('/resources/data/Example2.txt', 'w') as writefile:
    writefile.write("This is line A")

...

```

We can read the file to see if it worked:

```
[ ]: # Read file

with open('/resources/data/Example2.txt', 'r') as testwritefile:
    print(testwritefile.read())
```

We can write multiple lines:

```
[ ]: # Write Lines to file

with open('/resources/data/Example2.txt', 'w') as writefile:
    writefile.write("This is line A\n")
    writefile.write("This is line B\n")

...

```

The method `.write()` works similar to the method `.readline()`, except instead of reading a new line it writes a new line. The process is illustrated in the figure, the different colour coding of the grid represents a new line added to the file after each method call.

T	h	i	s		i	s		l	i	n	e		A
T	h	i	s		i	s		l	i	n	e		B

```
1)writefile.write("This is line A\n")  
2)writefile.write("This is line B\n")
```

You can check the file to see if your results are correct

```
[ ]: # Check whether write to file

with open('/resources/data/Example2.txt', 'r') as testwritefile:
    print(testwritefile.read())
```

By setting the mode argument to append **a** you can append a new line as follows:

```
[ ]: # Write a new line to text file

with open('/resources/data/Example2.txt', 'a') as testwritefile:
    testwritefile.write("This is line C\n")
```

You can verify the file has changed by running the following cell:

```
[ ]: # Verify if the new line is in the text file

with open('/resources/data/Example2.txt', 'r') as testwritefile:
    print(testwritefile.read())
```

We write a list to a .txt file as follows:

```
[ ]: # Sample list of text
```

```
Lines = ["This is line A\n", "This is line B\n", "This is line C\n"]
Lines
```

```
[ ]: # Write the strings in the List to text file
```

```
with open('Example2.txt', 'w') as writefile:
    for line in Lines:
        print(line)
        writefile.write(line)
```

We can verify the file is written by reading it and printing out the values:

```
[ ]: # Verify if writing to file is successfully executed
```

```
with open('Example2.txt', 'r') as testwritefile:
    print(testwritefile.read())
```

We can again append to the file by changing the second parameter to a. This adds the code:

```
[ ]: # Append the Line to the file
```

```
with open('Example2.txt', 'a') as testwritefile:
    testwritefile.write("This is line D\n")
```

We can see the results of appending the file:

```
[ ]: # Verify if the appending is successfully executed
```

```
with open('Example2.txt', 'r') as testwritefile:
    print(testwritefile.read())
```

Did you know? IBM Watson Studio lets you build and deploy an AI solution, using the best of open source and IBM software and giving your team a single environment to work in. [Learn more here.](#)

Copy a File

Let's copy the file Example2.txt to the file Example3.txt:

```
[ ]: # Copy file to another
```

```
with open('Example2.txt','r') as readfile:
    with open('Example3.txt','w') as writefile:
        for line in readfile:
            writefile.write(line)
```

We can read the file to see if everything works:

```
[ ]: # Verify if the copy is successfully executed
```

```
with open('Example3.txt','r') as testwritefile:
    print(testwritefile.read())
```

After reading files, we can also write data into files and save them in different file formats like **.txt**, **.csv**, **.xls (for excel files) etc.** Let's take a look at some examples.

```
[ ]: # Writing a file and saving in .txt format
file1 = open("myfile.txt","w")
L = ["This is Delhi \n","This is Paris.\n","This is London.\n"]
file1.writelines(L)
file1.close()
```

Now go to the directory to ensure the .txt file exists and contains the summary data that we wrote.

The last exercise!

Congratulations, you have completed your first lesson and hands-on lab in Python. However, there is one more thing you need to do. The Data Science community encourages sharing work. The best way to share and showcase your work is to share it on GitHub. By sharing your notebook on GitHub you are not only building your reputation with fellow data scientists, but you can also show it off when applying for a job. Even though this was your first piece of work, it is never too early to start building good habits. So, please read and follow [this article](#) to learn how to share your work.

Author

[Joseph Santarcangelo](#)

Other Contributors

[Mavis Zhou](#)

Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2020-09-09	2.1	Malika Singla	Added the example for writing a file
2020-08-28	2.0	Lavanya	Moved lab to course repo in GitLab

