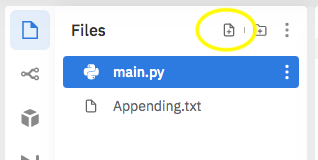
6 File Handling

### General Teacher Notes

#### File Handling

So far all of the programs that we have written have been self contained. These exercises teach students how to access and edit external files. In these exercises we will use .txt files. I’ve already created the text files and added them to the examples. If you want to use your own then just make them in a text editor like notepad and upload them to your repl using the ‘add file’ button:



**Errors to look out for:**

Not including the file extension (.txt)

Consistency between file variable used with open and in the loop.

Wrong case in filename.

Not indenting inside loops.

Not closing file once task is completed.

The skills that students will learn are:

Read from a text file - output the contents of the file in the console.

Write to file - put new data into a file.

Append to file - add new data to the end of a file.

# Reads from a file and outputs the contents

# r sets the file permissions to read only.

myFile = open("test.txt", "r")

#Loops through each line in the file and outputs it.

for line in myFile:

print(line)

myFile.close()

#Writing to a file

# w always overwrites the existing data in the file

# If there's an existing file, python will use it, if not it will create it.

myFile = open('Writing.txt','w')

# Stores the string to be written into a variable

name = “Mr Colley”

# Writes the data from the name variable into the file. Will overwrite what’s already there.

myFile.write(name)

myFile.close()

#Appending to a file

# a appends the new data to the end of the file

# If there's an existing file, python will use it, if not it will create it.

myFile = open('Appending.txt','a')

# Stores the string to be written into a variable

name = “Mr Colley”

# Writes the data from the name variable into the file. Will add it to a new line.

# \n moves to a new line after writing so all the data will not end up on one line.

myFile.write(name + “\n”)

myFile.close()

### 

### 

### 

### 1 - Reading From A File

#### Read From A File - Tasks

##### Predict And Run

Task and instructions - <https://repl.it/@MrAColley/261-Read-File-Predict-Run>

Example solution - <https://repl.it/@MrAColley/261-Read-File-Predict-Run-Solution>

##### Investigate And Modify

Task and instructions - <https://repl.it/@MrAColley/262-Read-File-Investigate-Modify>

Example solution - <https://repl.it/@MrAColley/262-Read-File-Investigate-Modify-Solution>

##### Make

Task and instructions - <https://repl.it/@MrAColley/263-Read-File-Make>

Example solution - <https://repl.it/@MrAColley/263-Read-File-Make-Solution>

### 2 - Writing/Appending To A File

#### TEACHER NOTES

Write and append don’t need pre existing text files to work. If the file named in the code doesn’t exist, Python creates it. If it does exist Python opens it.

Write overwrites the first line in the code every time it is run. Get students to run the code once, check the text file, run the code again with different data and recheck the check file to see this in action.

Append adds to the end of the file.

I’ve coded the tasks as functions to give students a reminder of structured programming and understanding program flow that uses them.

#### Write/Append To A File - Tasks

##### Predict And Run

Task and instructions - <https://repl.it/@MrAColley/264-Write-Append-Predict-Run>

Example solution - <https://repl.it/@MrAColley/264-Write-Append-Predict-Run-Solutions>

##### Investigate

Task and instructions - <https://repl.it/@MrAColley/265-Write-Append-Investigate>

Example solution - <https://repl.it/@MrAColley/265-Write-Append-Investigate-Solution>

##### Modify

Task and instructions - <https://repl.it/@MrAColley/266-Write-Append-Modify>

Example solution - <https://repl.it/@MrAColley/266-Write-Append-Modify-Solution>

##### Make

Task and instructions - <https://repl.it/@MrAColley/267-Write-Append-Make>

Example solution - <https://repl.it/@MrAColley/267-Write-Append-Make-Solution>