

GCSE

Practical
programming
skills in Python

Writing files

Topic 8



PG ONLINE

8

Objectives

- Be able to write data to a file
- Understand what “append” means
- Know how to append data to a file

Starter

- What is the code you need to open a file in read mode?
- What do you need to alter to open a file in write mode?

Starter

- Opening a file in read mode:

```
file = open("filename.txt", "r")
```

- Opening a file in write mode:

```
file = open("filename.txt", "w")
```


Writing a new file

- Try this code:

```
name = input("What is your name? ")  
file = open("newFile.txt", "w")  
file.write(name)  
file.close()
```

Writing a new file

- Now check in the folder where you saved your Python program
 - You should have a new file called “newFile.txt”
 - Open it and see what it says

Overwriting a file

- Don't do it – but if you ran the program again and typed in a different name, what would happen?
 - Now try it out and see if you're correct

Overwriting a file

- When you open a file in write mode (“w”), you wipe out whatever was there and start again
- Once the file is open you can add more text as many times as you like

Writing several records

- Try this code:

```
name = input("What is your name? ")  
file = open("newFile.txt", "w")  
file.write(name)  
name = input("Enter a different name. ")  
file.write(name)  
file.close()
```



All fixed?

- Without looking – what do you think your file will look like once you've entered two names?
- Now try it out and see if you're correct
- You have to tell the program to go to a newline using the newline character – “\n”

The newline character

- Try this code:

```
name = input("What is your name? ")  
file = open("newFile.txt", "w")  
file.write(name + "\n")  
name = input("Enter a different name. ")  
file.write(name + "\n")  
file.close()
```

Writing more than one field in a record

- Suppose you want to enter a first name, surname and height in cm in each record

```
firstname = input("Enter first name: ")  
surname = input("Enter surname: ")  
height = input("Enter height: ")  
file.write(firstname + ", "+surname + ", "+height+"\n")
```



Worksheet 8

- Complete the challenges in **Task 1**



Appending data to a file

- Try this code:

```
file = open("newFile", "a")  
file.write("This text is new! ")  
file.close()
```

- Run the program a second time, writing some different text

Appending data

- Have a look at your file to see what it contains
- Opening a file in append mode “a” lets you add additional records to a file
- If the file does not exist, a new file will be created
- You will still need to manually add any newline characters

Worksheet 8

- Complete the challenges in **Task 2**



Plenary (1)

- These are the three access modes you will need:

Mode	Meaning
'r'	Open for reading (default)
'w'	Open for writing. If the file exists, Python will delete all the contents first; if the file does not exist, Python will create a new file
'a'	Open for writing, appending to the end of the file if it exists; if the file does not exist, Python will create a new file

Plenary (2)

- When you write data to a file, be aware that you can either append the newline character `\n` to the end of the last field in each record:

```
file.write(firstname + "," + surname + "," + height + "\n")
```

or add `\n` as an extra field at the end of each record

```
file.write(firstname + "," + surname + "," + height + "," + "\n")
```

- This makes a difference when you search for a particular value in the last field!



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