



Hillview International School: Year 9

Programming in Python:

File handling and CSV files

Lesson outcomes

By the end of this lesson, you will be able to:

- Read and write text files using Python
- Understand what a CSV file is

Working with files – creating/opening files

- Syntax:

```
file = open("filename", "mode")
```

- There are four modes to open a file:

```
file = open("filename", "r")      # Read only  
                                  # Fails if file not found
```

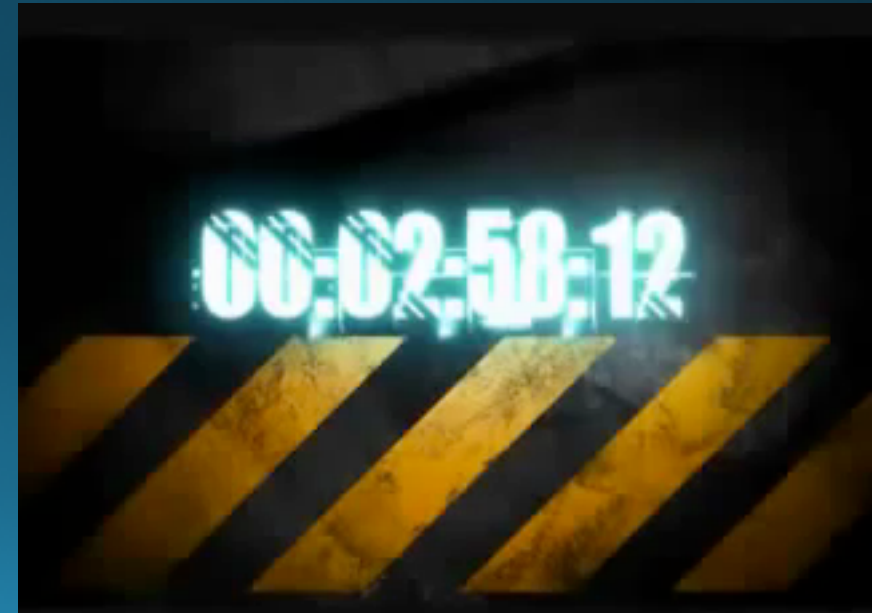
```
file = open("filename", "w")      # Write only (create new)  
                                  # Overwrites existing file
```

```
file = open("filename", "a")      # Append (create new)  
                                  # Adds to the end of file
```

```
file = open("filename", "r+")     # Read and write
```

Activity 1: Creating a file

```
# Open the file to append to the end.  
# If it doesn't already exist, it will be created  
file = open("test.txt", "a")  
  
# Write some text to the file  
file.write("Name, Age, Birth Country")  
  
# Finished updating so close the file  
file.close()
```



CSV Files: Comma Separated Values

- A text file that opens in Excel
- Comma separates each cell
- Each line is a new row

```
Name, Age, Birth Country  
Mr Hughes, 34, UK  
Ms Garson-Hughes, 33, Zimbabwe  
Mr Holmgren, 39, South Africa
```

	A	B	C
1	Name	Age	Birth Country
2	Mr Hughes	34	UK
3	Ms Garson-Hughes	33	Zimbabwe
4	Mr Holmgren	39	South Africa

Adding new lines to files

- Different operating systems use different codes for new line
- So we need to import the “os” library:

```
import os
```

- Then we make a new line with this code:

```
os.linesep
```

- Example:

```
file.write("Name, Age, Birth Country"+os.linesep)
```

Activity 2: Creating a CSV file

```
import os
file = open("csv-test.csv", "a")
file.write("Name, Age, Birth Country"+os.linesep)
file.write("Mr Hughes, 34, UK"+os.linesep)
file.write("Ms Garson-Hughes, 33, Zimbabwe"+os.linesep)
file.write("Mr Holmgren, 39, South Africa"+os.linesep)
file.close()
```



04:57

Lesson summary

You should now be able to:

- Read and write text files using Python
- Understand what a CSV file is

Now get back to designing your survey program