# Week 8 Summary

CSCA08

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# TextIO and the open function

- TextIO is a data type that provides a handle to the files.

```
f = open('file_name.txt')
```

This makes a TextIO object names f which is a handle to the file.

  - The file should be in the same current working directory or we should provide the full directory path as a string input
  - By default Python opens files for reading but we can also open files for writing and appending as well:
  - f = open('file_name.txt', 'w') : for writing
  - f = open('file_name.txt', 'a') : for appending

# TextIO and open function

- In functions working with files we usually get a TextIO handle to the file.
  - It is already open so we should not open it again
  - We do not need to close it unless the description clearly states so.

# Reading data from files

- For Python file is a stack of lines, and each line is a string.
  - Once you read a line you can not go back unless you close and open the file again which resets the cursor at the first line again.
  - The end of the file is an empty string
  - There are 4 methods to read lines from a file

| | |
|---|---|
| f.read() | reads the rest of the file returns a single str |
| f.readline() | reads the next line into a str |
| f.readlines() | reads the rest of the lines returns a List[str] |
| for line in f: | reads the rest of the lines one by one in a loop |

# Writing into a file

- You can write only if you have opened the file for writing.

  f = open('file_name', 'w')

- Python creates a file if that does not exist in the current working directory.

- The changes will only be saved when you close the file.

f.write('the string to be written')