* **Reading and Writing Files –**
* Steps :

1. Open a file
2. Perform read or write operation
3. Close the file

* Types of files –

1. Text files - Python source code, HTML file, text file, markdown file etc.
2. Binary files - executable files, images, audio etc.

* Opening the file –
  + open(filename, mode)

| **Argument** | **Description** |
| --- | --- |
| filename | Absolute or relative path of the file to be opened. |
| mode | (optional) mode is a string which refers to the processing mode (i.e read, write, append etc;) and file type. |

| **Mode** | **Description** |
| --- | --- |
| r | Open the file for reading (default). |
| w | Open the file for writing. |
| a | Open the file in append mode i.e add new data to the end of the file. |
| r+ | Open the file for reading and writing both |
| x | Open the file for writing, only if it doesn't already exist. |
| t | For text files |
| b | For binary files |

**Reading from a file**

**Example 1: Reading the Entire File**

# Open the file in read mode ('r')

with open('example.txt', 'r') as file:

# Read the entire content of the file

content = file.read()

# Print the content

print(content)

**Example 2: Reading the File Line by Line**

# Open the file in read mode ('r')

with open('example.txt', 'r') as file:

# Iterate through each line in the file

for line in file:

# Print each line

print(line, end='')

**Example 3: Reading Specific Number of Characters**

# Open the file in read mode ('r')

with open('example.txt', 'r') as file:

# Read the first 10 characters from the file

content = file.read(10)

# Print the content

print(content)

**Example 4: Reading Lines into a List**

# Open the file in read mode ('r')

with open('example.txt', 'r') as file:

# Read all lines into a list

lines = file.readlines()

# Print the list of lines

print(lines)

**Writing to a file:**

**Example 1: Writing a String to a File**

# Open the file in write mode ('w')

with open('example.txt', 'w') as file:

# Write a string to the file

file.write('Hello, world!')

**Example 2: Writing Multiple Lines to a File**

# Open the file in write mode ('w')

with open('example.txt', 'w') as file:

# Write multiple lines to the file

file.write('First line\n')

file.write('Second line\n')

file.write('Third line\n')

# Each call to write() appends to the file

**Example 3: Writing a List of Lines to a File**

# Open the file in write mode ('w')

with open('example.txt', 'w') as file:

# Create a list of lines

lines = ['First line\n', 'Second line\n', 'Third line\n']

# Write the list to the file

file.writelines(lines)

**Example 4: Appending to a File**

# Open the file in append mode ('a')

with open('example.txt', 'a') as file:

# Append a line to the file

file.write('This line will be added to the existing content.\n')

Closing the file :

close()

Split function –

Split sentence into a list of words.

Exercises –

1. Write a poem of 4 lines into a file
2. Create a list of your 2 favourite movies in a file and read it and show it on the screen.
3. Open a text file and count the number of words in it