

# Files

A group of information/data stored in a device and uniquely identified by a path/filename. The files can be made up of fixed or variable length records.

## Text files

- Made up of records of variable length (lines) that have an End Of Line (EOL) character. The default in Python is the new line character ("`\n`").

## Binary files

- Made up of a sequence of bytes (0s and 1s). Examples of binary files are images or executable files.

# File open

Creates a connection with a file and set its access mode. The open instruction returns an handler that can be used to read/write from/to the file.

**open(*filename, mode*)**

***filename*** - The path name of the file

***mode*** - There are the following options:

"r" - read: Opens the file for reading (default). The file must exist.

"a" - append: Opens the file for appending. If the file doesn't exist is created.

"w" - write: Opens the file for writing. If the file doesn't exist is created.

"x" - create: Creates the file. The file must not exist.

and the additional modes can be added:

"t" - text: Text mode (default).

"b" - binary: Binary mode.

Examples:    `fileh = open("test.txt")`      `fileh = open("test.txt", "rt")`      `fileh = open("test.txt", "w")`

## File read

```
fhand = open("test.txt", "r")
```

```
chars = fhand.read(n)
```

Reads n characters from the file or all the file if n is omitted

```
line = fhand.readline()
```

Reads a line from the file

```
for line in fhand:  
    print(line)
```

Loops through all the lines from the file

## File write

```
fhand = open("test.txt", "w")
```

```
fhand.write("first line")
```

## File close

```
fhand.close()
```