

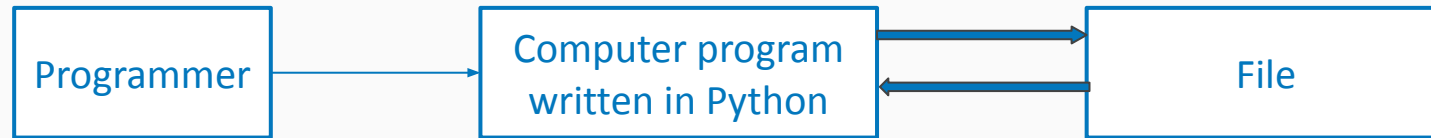
PYTHON



File I/O

The random access memory is volatile and all its content are lost once a program terminates to persist the data forever, we use files.

A file is data stored in a storage device. A python program is data stored in a storage device. A python program can talk to the file by reading content from it and writing content to it.



RAM=volatile
HDD=non-volatile

Types of files

There are 2 types of file :

1. **Text files (.txt, .c etc.)**
2. **Binary files (.jpg, .dat etc.)**

Python has a lot of functions for reading, updating and deleting files.

Opening a file :

Python has an `open()` function for opening files. It takes 2 parameters : filename and mode

`open ("this.txt", "r")`

↓ ↓ ↓

 File mode of opening (read mode)

↓

Open is a built-in function

Reading a file in Python

`f=open ("this.txt", "r")` → open the file mode
`text=f.read()` → Read its contents
`print(text)` → Print its contents
`f.close` → Close the file

We can also specify the number of characters in **read() function** : `f.read(2)` → Reads first 2 characters

Others methods to read the file :

We can also use `f.readline()` function to read on full line at a time.

`f.readline()` → Reads one line from the file

Modes of opening a file

r → **open for reading**
w → **open for writing**
a → **open for appending**
t → **open for updating**

'rb' will open for read in binary mode

'rt' will open for read in text mode

Writing files in Python

In order to write a file, we first open it in write or append mode after which, we use the python `f.write` method to write the file.

```
f=open("this.text", "w")
```

```
f.write("this is nice") → can be called multiple times
```

with statement

The best way to open and close the file automatically is the with statement.

```
with open("this.text") as f : f.read() → don't need to write f.close() as it is done automatically
```

Thanks!

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