

Files

- Text
 - Collections of lines
 - sequence of characters terminated by (End Of Line) \
- Binary (program)

Open ()

Start working with a file by using **open()** function. Returns a **file** object, most commonly used with two arguments.

Syntax:

file_object = open(filename, mode)

Mode:

- 'r' file will only be read
- 'w' only writing (an existing file with the same name will be erased)
- 'a' for appending; any data written to the file is automatically added to the end.
- 'r+' opens the file for both reading and writing.

File functions

`file.write(String)`

`file.read(num_characters)`

`file.readline()`

`file.readlines()`

`file.close()`

Creating a file

```
>>> HBBDNA
'gtgcactgactcctgaggagaagtctgccgttactgccctgtggggcaaggtgaacg
tggatgaagttggtgaggccctgggcaggctgctggtggtctaccctggaccag
aggttcttgagtccttggggatctgtccactcctgatgctggtatgggcaaccctaagg
tgaaggctcatggcaagaagtctcggtgcctttagtgatggccttgctcacctggac
aacctcaagggcaccttggcacactgagtgagctgcaactgtgacaagctgcacgtgg
atcctgagaacttcaggctcctgggcaactgctggctgtgtgctggcccatcacttg
gcaagaattcaccaccagtgaggctgcctatcagaaagtggtggctggtgtgct
taatgccctggcccacaagtatcac'
>>> file = open("HBB.txt", "w")
>>> file.write("This is HBB DNA \
")
>>> file.write(HBBDNA)
>>> file.close()
```

Reading a file

```
>>> file = open("HBB.txt", "r")
>>> print file.read()
This is HBB DNA
gtgacactgactcctgaggagaagtctgccgttactgccctgtggggcaaggtgaactggatgaa
gttgggtgaggccctgggcaggctgctgggtctaccctggacccagagttcttgagtcctt
gggatctgtccactcctgatgctgttatgggcaaccctaaggtgaaggctcatggcaagaaagt
ctcgggtgccttagtgatggcctggctcacctggacaacctcaagggcaccttggcacactgagtg
agctgcactgtgacaagctgcacgtggatcctgagaactcaggctcctgggcaactgctggctg
tgtgctggccatcacttggcaagaattcacccaccagtgcaggctgcctatcagaaagtggtg
gctgggtggctaagccctggcccacaagtatcac
```

print(newfile.read(4))

- A. This
- B. 'This'
- C. 'Thi'
- D.
- E. No clue

Reading a file

- file.readline()
- file.readlines()

Types of data in Python

```
>>> goodNum = 42 ← Integer
>>> pi = 3.1415926 ← "Floating point" number
>>> special = [2.718, 3.141, 42] ← List
>>> okFood = "spam" ← String (single or double quotes work)
>>> greatFood = 'chocolate'
>>> 5 > 6
>>> True ← Boolean
>>> file = open("HBB.txt", "r") ← Text file
```

