

# Python\_Input\_Output\_from\_files

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## 1 Writing to Files

- `open(filename, mode="r")` opens a file. More info [in the docs](#).
- By default `open` without arguments opens a file for reading
- `file.write("hello world")` would write "hello world" to whatever file the file variable points at.
- `file.close()` closes the pointer to the file file.
- The two most common modes or flags for writing are "w", for truncating and then writing, and "a" for appending to the file.

The context manager pattern for dealing with files is:

```
with open("my_file.txt", "a") as file:  
    file.write("Hello world")
```

In [4]: # *remember\_basic.py*

```
def rememberer(thing):  
    with open('database.txt', 'a') as file:  
        file.write(thing+'\n')  
  
if __name__ == '__main__':  
    rememberer(input("What should I remember? "))
```

What should I remember? Milk

## 2 Reading from Files

- `open(filename, mode="r")` opens a file. More info in the [docs](#).
- `file.read(bytes=-1)` would read the entire contents of the file. You can control the number of bytes read by passing in an integer. Relatedly, `file.seek()` will move the read/write pointer to another part of the file.
- `file.readlines()` reads the entire file into a list, with each line as a list item.

The context manager pattern for dealing with files is:

```
with open("my_file.txt", "r") as file:  
    file.read(10)
```

For more about `sys.argv`, check out the [docs](#).

```

In [19]: # remember_sys.py
import sys

def show():
    with open('database.txt') as file:
        for line in file:
            print(line)

def rememberer(thing):
    with open('database.txt', 'a') as file:
        file.write(thing+'\n')

if __name__ == '__main__':
    if sys.argv[1].lower() == '--list':
        show()
    else:
        rememberer(' '.join(sys.argv[1:]))

```

Running remember\_sys.py in Terminal with an argument : \* Apple will be added to database.txt

```

In [31]: ! python remember_sys.py Apple

```

--list argument shows the contents of database.txt :

```

In [32]: ! python remember_sys.py --list

```

Tree juice

Milk

Juice

Apple

Apple

**Command Line Example :**

```

In [34]: file = open('database.txt')
         file.read(10) # reading 10 bytes

```

```

Out[34]: 'Tree juice'

```

Read the rest of the file

```

In [35]: file.read()

```

```
Out [35]: '\nMilk\nJuice\nApple\nApple\n'
```

Reset read/write pointer to the beginning of the file

```
In [36]: file.seek(0)
```

```
Out [36]: 0
```

Save each line in a file to a list like object

```
In [37]: lines = file.readlines()
        len(lines)  # How many lines do we have?
```

```
Out [37]: 5
```

Iterate through the list of lines in text file

```
In [38]: for line in lines:
        print(line[:-1])
```

eciuj eerT

kliM

eciuj

elppA

elppA

```
In [4]: import datetime
        datetime.datetime.now()
```

```
Out [4]: datetime.datetime(2017, 9, 19, 17, 50, 56, 187514)
```