File I/O
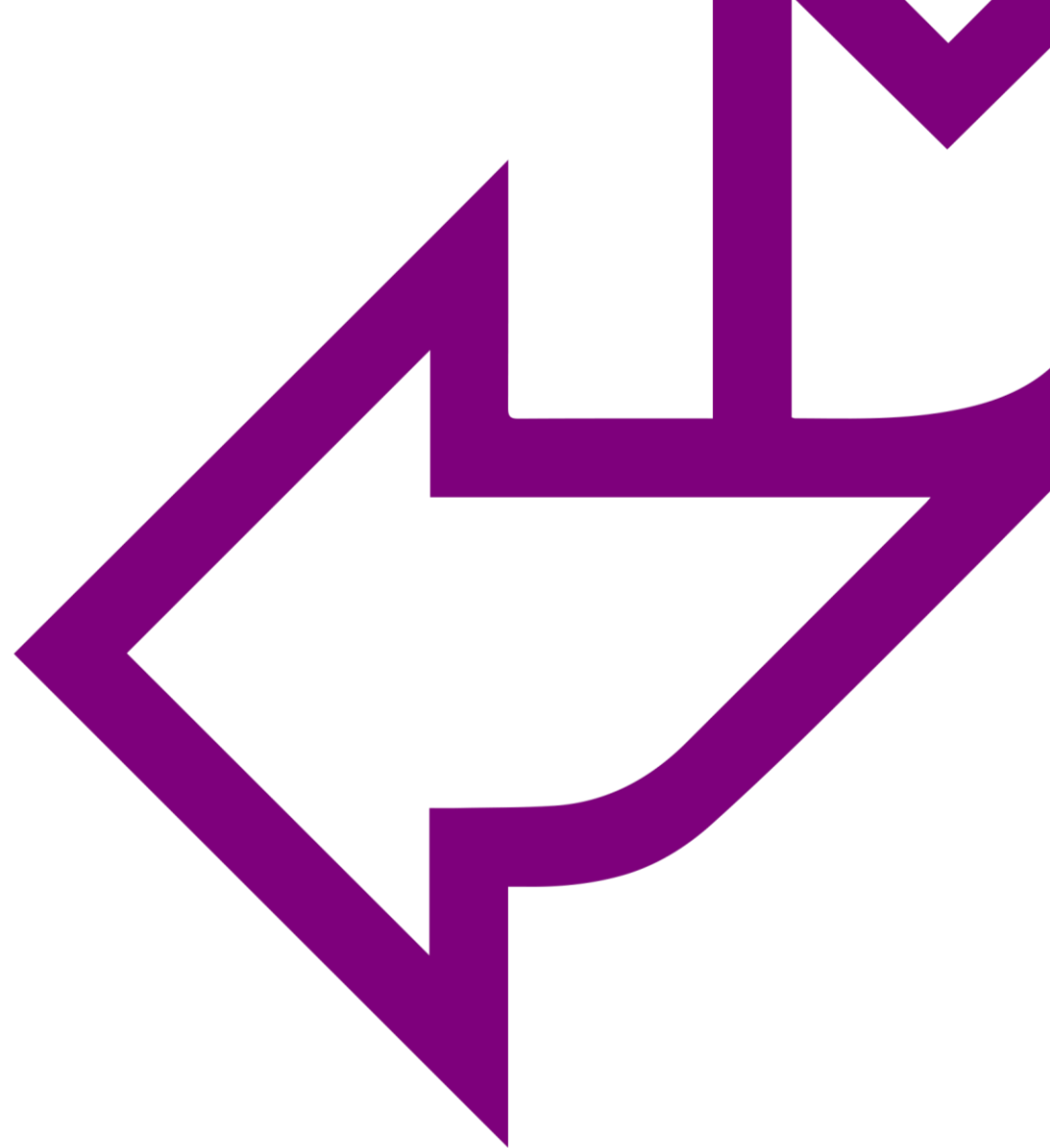
Read the first line of a file

```
file = open("students.txt", "r")
line = file.readline()

file.close()

print(line)
```
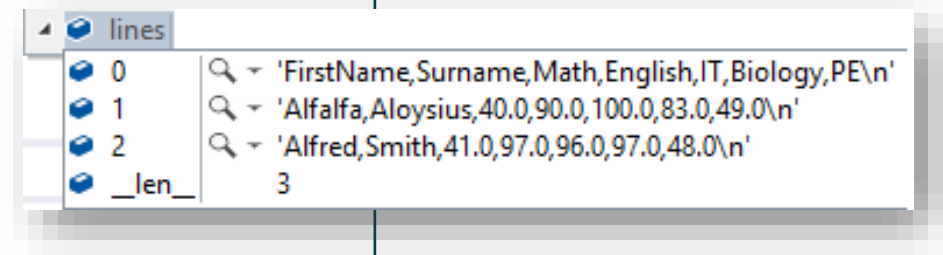
FirstName, Surname, Math, English, IT, Biology, PE

FirstName, Surname, Math, English, IT, Biology, PE
Alfalfa, Aloysius, 40.0, 90.0, 100.0, 83.0, 49.0
Alfred, Smith, 41.0, 97.0, 96.0, 97.0, 48.0

Read every line of a file into memory

```python
file = open("students.txt", "r")
lines = file.readlines()

file.close()

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

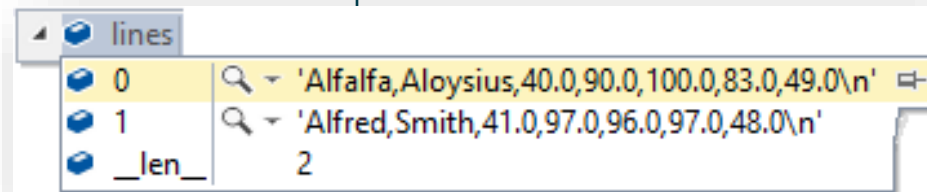|	lines		
	0	🔍 ▾	'FirstName,Surname,Math,English,IT,Biology,PE\n'
	1	🔍 ▾	'Alfalfa,Aloysius,40.0,90.0,100.0,83.0,49.0\n'
	2	🔍 ▾	'Alfred,Smith,41.0,97.0,96.0,97.0,48.0\n'
	__len__		3

FirstName, Surname, Math, English, IT, Biology, PE
Alfalfa, Aloysius, 40.0, 90.0, 100.0, 83.0, 49.0
Alfred, Smith, 41.0, 97.0, 96.0, 97.0, 48.0

Read every line of a file into memory...

```python
file = open("students.txt", "r")
header = file.readline()
lines = file.readlines()

file.close()

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

lines		
0	🔍 ▾	'Alfalfa,Aloysius,40.0,90.0,100.0,83.0,49.0\n'
1	🔍 ▾	'Alfred,Smith,41.0,97.0,96.0,97.0,48.0\n'
__len__		2

FirstName, Surname, Math, English, IT, Biology, PE
Alfalfa, Aloysius, 40.0, 90.0, 100.0, 83.0, 49.0
Alfred, Smith, 41.0, 97.0, 96.0, 97.0, 48.0

Read a file line by line

```python
file = open("students.txt", "r")

for line in file:
    print(line.strip())

file.close()
```

FirstName, Surname, Math, English, IT, Biology, PE
Alfalfa, Aloysius, 40.0, 90.0, 100.0, 83.0, 49.0
Alfred, Smith, 41.0, 97.0, 96.0, 97.0, 48.0
Press any key to continue . . .

spaces

```
        FirstName,  Surname,  Math,  English,  IT,
Biology,  PE
Alfalfa,  Aloysius,  40.0,  90.0,  100.0,  83.0,  49.0
    Alfred,  Smith,  41.0,  97.0,  96.0,  97.0,  48.0
```

Read all lines into memory – Using with

```python
with open("students.txt") as file:
        lines = file.readlines()

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

FirstName, Surname, Math, English, IT, Biology, PE
Alfalfa, Aloysius, 40.0, 90.0, 100.0, 83.0, 49.0
Alfred, Smith, 41.0, 97.0, 96.0, 97.0, 48.0

Read a file line by line – Using with

```python
with open("students.txt") as file:
    for line in file:
        print(line)
```

FirstName, Surname, Math, English, IT, Biology, PE
Alfalfa, Aloysius, 40.0, 90.0, 100.0, 83.0, 49.0
Alfred, Smith, 41.0, 97.0, 96.0, 97.0, 48.0

Append to a file – Using with

```python
with open("students.txt", "a") as file:
    file.write("Bob, Smith, 30, 80, 70, 60\n")
    file.write("Rob, Jones, 20, 60, 80, 90\n")
```

FirstName, Surname, Math, English, IT, Biology, PE
Alfalfa, Aloysius, 40.0, 90.0, 100.0, 83.0, 49.0
Alfred, Smith, 41.0, 97.0, 96.0, 97.0, 48.0
Bob, Smith, 30, 80, 70, 60
Rob, Jones, 20, 60, 80, 90

Write to a file

```python
with open(r"c:\qa\students.txt", "w") as file:
    file.write("Bob, Smith, 30, 80, 70, 60")
```

Bob, Smith, 30, 80, 70, 60

The only line in the file!

File path in Windows

```
file = open('C:\Users\Admin\source\repos\AWS\students.txt', "r")        ✘
```

```
file = open('C:/Users/Admin/source/repos/AWS/students.txt', "r")        ✓
```

```
file = open('C:\\Users\\Admin\\source\\repos\\AWS\\students.txt', "r")   ✓
```

```
file = open(r'C:\Users\Admin\source\repos\AWS\students.txt', "r")        ✓
```