LECTURE 7

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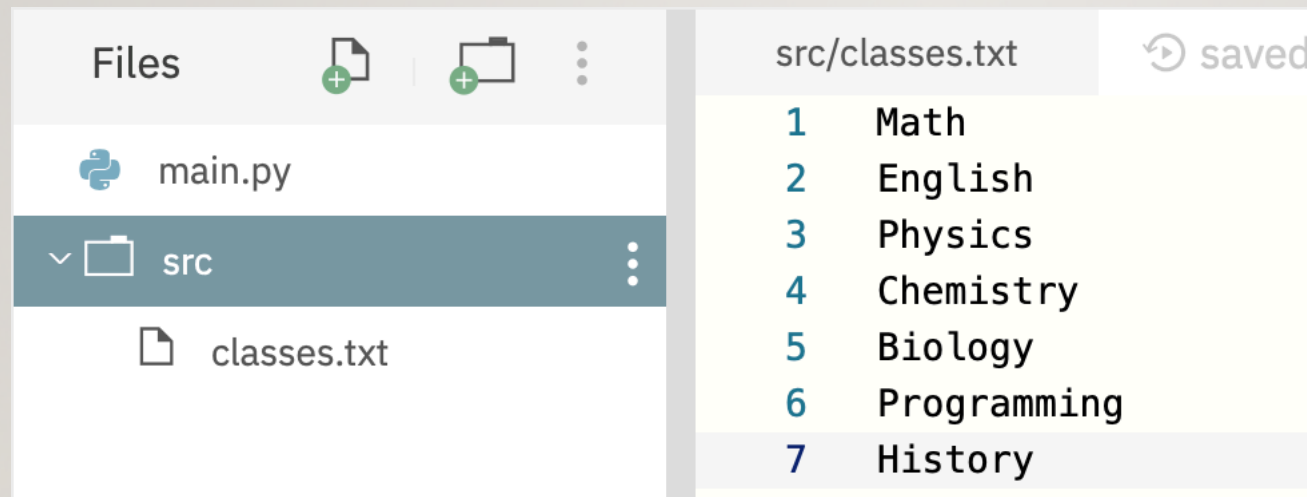# WHAT IS DISCUSSED IN THE LAST CLASS

- Strings

TODAY, WE WILL LEARN ABOUT
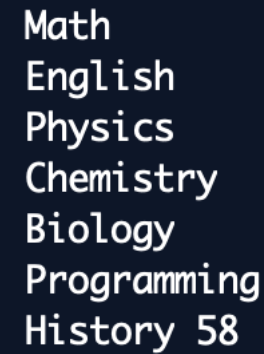
- File I/O

FILE

- We often access files to read/write data

- You can create folders and files by clicking icons on the left
  e.g.) a folder named "src" and a file "classes.txt" are created in our IDE

- How can we access that file in our program?

READING DATA FROM A FILE

- **open() function** is used to access the file

```
fobj = open("src/classes.txt", "r")

s = fobj.read()
print(s, len(s))

fobj.close()
```
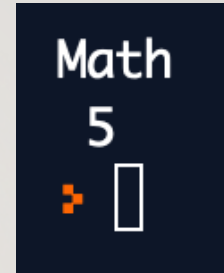
```
Math
English
Physics
Chemistry
Biology
Programming
History 58
>
```

- file.read() returns all content in the file

- **file.close()** should be called when you finish using the file

READING DATA FROM A FILE

- **file.readline()** is used to read a single line from a file

```
fobj = open("src/classes.txt", "r")

s = fobj.readline()
print(s, len(s))

fobj.close()
```

```
Math
5
▸ ☐
```

- Let's print all subject using for-loop

```
fobj = open("src/classes.txt", "r")

for line in fobj:
  s = line.strip()
  print(s, end=" ")
print()
```
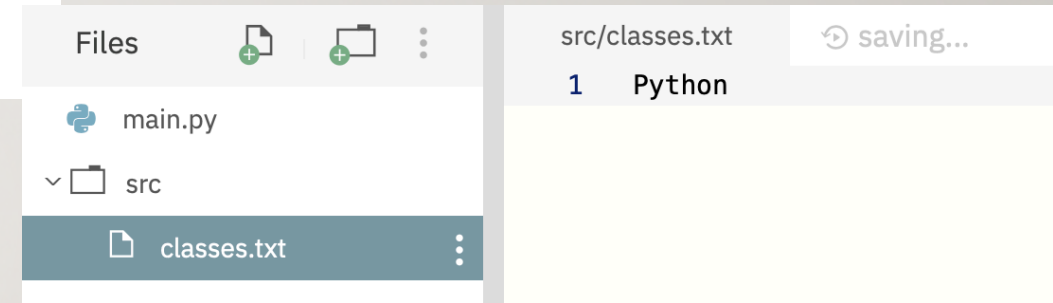
For-loop with a file object calls **readline()** automatically for each element, and stop after reading the last line

WRITING DATA TO A FILE
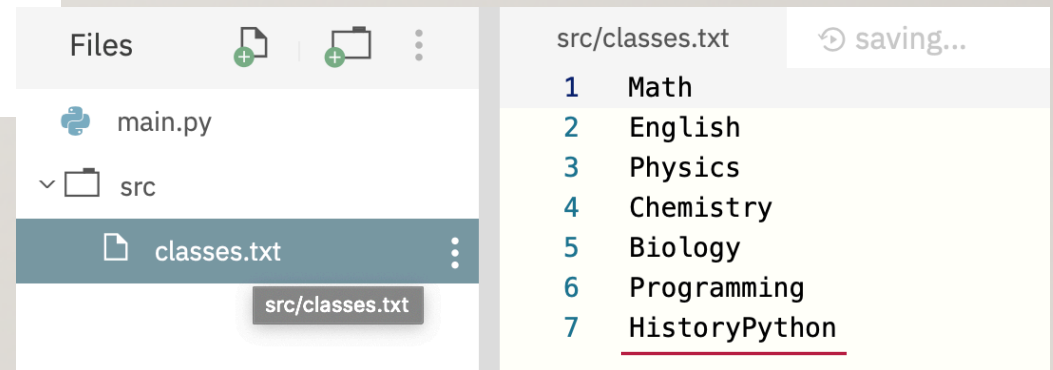
- Let's write something to a file

```
fobj = open("src/classes.txt", "w")
fobj.write("Python")
fobj.close()
```

All subjects are erased and "python" is written

- If you want to add "python" to the end of the file, then

```
fobj = open("src/classes.txt", "a")
fobj.write("Python")
fobj.close()
```

FILE I/O USING "WITH"

- Open a file with the keyword "with"

  - You **don't need to call file.close()**

  - For reading data

```python
with open("src/classes.txt", "r") as f:
    print(f.read())
    print(f.closed)


print(f.closed)
```

  - For writing data to the end of the file

```python
with open("src/classes.txt", "a") as f:
    f.write("\nPython")
```

FILE I/O USING "WITH"

- You can define and use your own wrapper function

```python
def readFile(path):
    with open(path, "r") as f:
        return f.read()

def writeFile(path, contents):
    with open(path, "a") as f:
        f.write(contents)

writeFile("src/classes.txt", "\nComputer Networks")

s = readFile("src/classes.txt")
print(s)
```

QUESTION?