Python Week 6

File types

```
1   f = open('rumi.txt', 'r') #relative path , r: read
2   # f = open('D:\python-lecture\Week6\rumi.txt', 'r')
3   poem = f.read() #read all file content
4   print(poem)
5   f.close() #close the stream
```

- Two general file types:
  - Text-based and human readable: .txt , .csv
  - Binary files and not human readable: .pptx, .xlsx
- How to read/write to a file:

Modes

`open(file, mode='r', buffering=-1, encoding=None, errors=None, newline=None, closefd=True, opener=None)`

Character	Meaning
`'r'`	open for reading (default)
`'w'`	open for writing, truncating the file first
`'x'`	open for exclusive creation, failing if the file already exists
`'a'`	open for writing, appending to the end of the file if it exists
`'b'`	binary mode
`'t'`	text mode (default)
`'+'`	open for updating (reading and writing)

With syntax

```
#open file and close it automatically with "with"
with open('rumi.txt', 'r') as f:
    poem = f.read() #read all file content
    print(poem)
```

Quiz:

- Write a code that writes numbers from 0 to 99 in a seperate line into num-text.txt file

Read line-by-line

```
with open('rumi.txt', 'r') as f:
    for line in f:
        print(line)
```

Quiz:

- Read file fill-blanks.txt , identify the number of blanks denoted by ....
- In a loop ask users to fill in the blanks in the corresponding line
- Compare the answers of the user with the correct answers list „golden“ and print
  - X out of Y answered correctly
- Write back the correct answers to the file
- (Optional) Repeat till there are no remaining blanks

```
golden = ["Emptiness", "fear", "mountain"]
```

How to install a package

- Check „import progressbar“
- pip install pkg-name
- conda install pkg-name
- Try installing progressbar and try again importing it

A short intro to pandas

- Read grades from a csv file
- Calculate the total grade by consdiering
  - 25% MidTerm grades
  - 75% Final grades
- Write down the total grades in a new columns „Total“
- Write back results in a new csv file new-grades.csv

```
1   import pandas as pd
2   data = pd.read_csv('grades.csv')
3   data["Total"]= (0.25*data["Final"]+0.75*data["MidTerm"])
4   print(data)
5   data.to_csv("new-grades.csv")
```