



ÓBUDAI EGYETEM
ÓBUDA UNIVERSITY

Python in practice

Day 2 - Files

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Defining Modules

- When your source code becomes too big and complex, you can split it into different parts, aka modules
- Makes the code more maintainable, reuseable, debuggable
- A module is a file, consisting of Python code, that can define functions, classes, and can also contain runnable code
- Example:
 - File name: test.py
 - Module name: test

Importing Modules

- If you have a module, you have to import it in order to be able to use it. To do this, we use the 'import' keyword
- For example, if I have a module named 'test', I can import it by referencing it at the beginning of the file:
 - `import test`
- Now you can use any method or class that is in test.py
 - `test.test_function()`
- If you don't want to import the whole file, only some methods or classes, you can use the `from ... import` statement
 - `from test import test_function, test_function2`
- `test_function()`

Importing Modules

- If you want to import the whole module, but still don't want to reference every single part of it by the name of the module, you can use the `import *` statement
 - `from test import *`
- You can also rename a module on import, to be more convenient to use
 - `import test as t`

Writing Modules

- To write your own module, you have to create a new Python file
- If you create functions and classes inside a module in the same way you did in the main file, you can reference them after importing the module



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Working With Files

Handling Files

- To read a text file, first you have to open it
 - `f=open("demo.txt", "r")`
- "demo.txt" is the name of the file we want to open
- "r" is the mode that we want to open the file in
 - r – reading. If the file doesn't exist, returns an error
 - a – append. If the file doesn't exist, creates it
 - w – write. If the file doesn't exist, creates it
 - x – create. If the file exists, returns an error
- In addition, you can define if the file is text or in binary
 - t – text
 - b – binary
- The default value is read text, so you don't have to specify them
 - `open("demo.txt", "r")` is the same as `open("demo.txt")` and as `open("demo.txt", "rt")`

Read Files

- To read a whole file, we can use the “read” function
 - `f.read()`
- Without any parameters, the function will return the whole file’s content
- If we input an integer `n`, it will return `n` characters from the file
 - `f.read(5)`
- To read lines from the file, we can use the “readline” function. Calling it multiple times, we can get the first multiple lines.
 - `f.readline()`

Read Files

- We can get every line in the file one-by-one, by looping over the file
 - `f = open("demo.txt")`
 - `for x in f:`
 - `print(x)`
- To close a file, we will call "close" on the file
 - `f.close()`