Intelligent Control
Lecture 8 – File I/O

UNIVERSITY OF APPLIED SCIENCES

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De persoonlijke hogeschool

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Absolute path and relative path

Current working directory (when you run the program)

os.getcwd()

Absolute path and relative path

Absolute path

/home/usr/dir

C:\Program Files\Adobe\AcrobatDC\Acrobat\Acrobat.exe

Absolute path and relative path

Relative path

example_dir/temp.py

C:\Program Files\Adobe\AcrobatDC\Acrobat\Acrobat.exe

Absolute path and relative path

C:\Program Files\Adobe\AcrobatDC\Acrobat\Acrobat.exe

Opening & closing files

open()

close()

Opening & closing files – encapsulation

```
with open('file') as f:
        data = file.read()
        ……
```

Python with statement

Execute simple operations as a pair

ALWAYS USE WITH STATEMENT TO READ AND WRITE FILE

Python with statement

__enter__()

__exit__()

```
def __enter__(self):
    print('enter')
    return self

def __exit__(self, exc_type, exc_value, exc_traceback):
    print('exit')
```

Access mode

r - read from beginning(file not exist err)(default)
w - write from beginning (existing file with same name will be erased)
x - exclusive creation (file exist err)
a - write, append if exist
b - binary mode
t - text mode(default)
+ - open a disk file for updating (read&write)
~~u - universal newlines mode~~

Text file vs binary file

Text	Binary
ASCII	binary
Portability problem due to encoding	Always portable
Default	Specify with ‘b’
.txt, .json, .csv ,.cfg, conf……	.jpg, .png, .gif, .bak, .DAT, .bin, .pdf
	~~shady: .log~~

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Read & Write: binary

.close()
.read()
.write()
.seek()
.tell()

.name
.mode
.closed
.encoding

Read & Write: text

.close()
.read()
.write()
.readline()
.readlines()
.writelines()
.seek()
.tell()

.name
.mode
.closed
.encoding

Wrap-up

- ✓ Warm-up problems
- ✓ Introduction
- ✓ Python Objects – A more detailed view
- ✓ Create your first self-defined class
- ✓ Class Inheritance
- ✓ Name-mangling
- ✓ Wrap-up

A few things to announce before the end of this lecture

- ✓ **Do as much coding practice as possible**