

Forritunarmálið Python

Day 6

The File System

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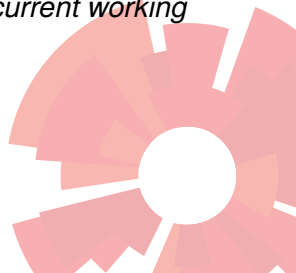
4. desember 2017



The File System



- The file system is a tree
- To locate files and directories in the tree, we use paths
- Paths come in two different flavors
 - Absolute path
 - Path to a file/directory from the root of the tree
 - Path to a file/directory relative to the *current working directory*
- **There is always a current directory**



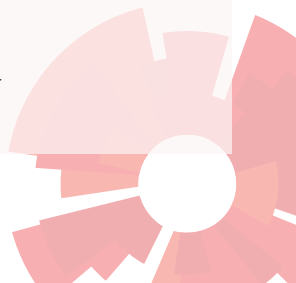
Absolute paths

Unix (Linux, Mac OS)

- `/home/nonni/pr0n`
- `/home/nonni/favorite_movies.txt`

Windows

- `C:\Users\nonni\pr0n`
- `C:\Users\nonni\favorite_movies.txt`
- `D:\some\other\path`

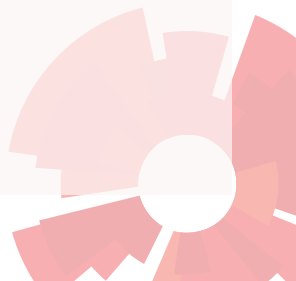


Relative paths

- Any program that is run has a *current working directory*
- Relative paths locate files/directories relative to the CWD
- Current directory: `.`
- Parent directory: `..`

Unix (Linux, Mac OS)

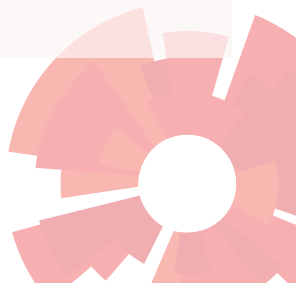
- `./favorite_movies.txt`
- `favorite_movies.txt` - **same as above**
- `../favorite_movies.txt`
- `../nonni/favorite_movies.txt`



Relative paths

Windows

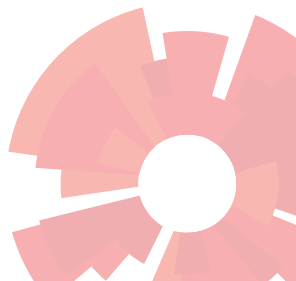
- `.\favorite_movies.txt`
- `favorite_movies.txt` - **same as above**
- `..\favorite_movies.txt`
- `..\nonni\favorite_movies.txt`



Python and the file system



- Current working directory
 - `chdir`, `getcwd`
- Creating directories
 - `mkdir`, `makedirs`
- Removing files and directories
 - `remove`, `removedirs`, `rmdir`
- Contents of directories
 - `listdir`, `scandir`
- Traverse file system
 - `walk`



- Convert relative paths to absolute paths

- `abspath`

- Parts of the path

- `basename`, `dirname`, `split`

- Properties

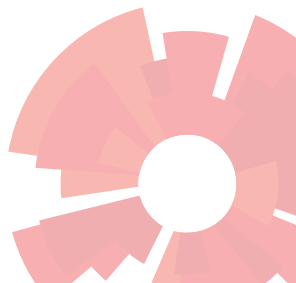
- `exists`, `isfile`, `isdir`

- Joining paths

- `join`

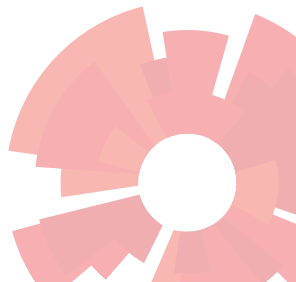
- Normalize paths

- `normpath`

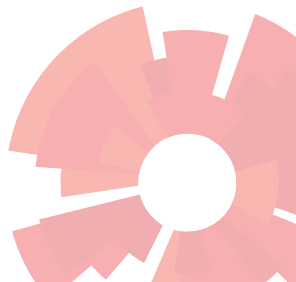


pathlib - Object oriented paths

- `abspath` → `resolve`
- `basename`, `dirname`, `split` → `parts`, `parent`, `name`
- `exists`, `isfile`, `isdir` → `exists`, `is_file`, `is_dir`
- `join` → `/` **or** `joinpath`
- `normpath` → `resolve`



- `getcwd` → `cwd`
- `mkdir`, `makedirs` → `mkdir`
- `remove`, `removedirs`, `rmdir` → `rmdir`, `unlink`
- `listdir`, `scandir` → `iterdir`
- `walk` → `glob`



- Copy files

 - `copy`, `copy2`

- Copy directories

 - `copytree`

- Remove directories and contents

 - `rmtree`

- Move (rename)

 - `move`

