File System

Project Documentation

The project imitates a working environment with files and folders. Most of the functions that are available in the command prompt on Microsoft operation systems and Linux base computers can be find in the file system as well. There is wide range of possibilities with the command that are present.

Main Structure

The code is separated in four files:

* FileSystem
* CommandHelpers
* DataTypes
* ConvertingFunctions

**DataTypes:**

In this file is the definition of the data Tree that sits beneath the file system. The base of the project is processing and applying commands to the tree itself. In the file type Node can be found. It is needed when an element to the tree is added and it is tuple of three Strings. Everything else are functions that return parts of the Tree or the Tuple.

**ConvertingFunctions:**

The functions that can be found here construct some of the data types or convert something from one type to another like “pathStringToList” which converts from string to list.

**CommandHelpers:**

Here is the main part of the project where all the functions are being applied to the Tree. The helpers functions take the processed input and apply them the system and if everything is correct the changes are applied.

**FileSystem:**

The file where the input of the user is being processed. After reading and processing it, the functions transfer the work to the functions with the same name in the CommandHelpers file. Here are all the functions and command that the user has access to. The “main” function from which the program starts is also here and “reading input” in which the input from the user is read. Every functions in this file calls “reading input” so that the program never stops without the function “exit”. Here can also be found the function for reading and writing in file which were not part of the task.

With this 4 files there is one more file, which has example of a tree from which the user can start working.

List of functionalities

Command help: that prints the functionalities

Command pwd: print the path to directory

Command addElement: adds element in the system

Command cd: which changes the current directory

Command ls: which prints the current directory

Command cat: concatenates content of files

Command rmAll: removes all files and folders with a name in the current directory

Command removeFiles: removes all files with a given name in the current directory

Command removeFolders: remove all folders with a given name in the current directory

Command print: that prints the whole file system

Command exit: exits the program and writes the system to a file