# Exercise: File Handling

This document defines the exercises for the ["Python Advanced" course at @Software University.](https://softuni.bg/trainings/4370/python-advanced-january-2024)

## Even Lines

Write a program that reads a **text** file and prints on the console its **even** **lines**. Line numbers start from 0. Before you print the result, replace {"-", ",", ".", "!", "?"} with "@" and reverse the order of the words.

### Examples

|  |  |
| --- | --- |
| **text.txt** | **output** |
| -I was quick to judge him, but it wasn't his fault.  -Is this some kind of joke?! Is it?  -Quick, hide here. It is safer. | fault@ his wasn't it but him@ judge to quick was @I  safer@ is It here@ hide @Quick@ |

## Line Numbers

Write a program that **reads** a **text** **file**, inserts line numbers in front of each line, **and counts all the letters and punctuation marks**. The result should be **written** in **another** text file.

### Examples

|  |  |
| --- | --- |
| **text.txt** | **output.txt** |
| -I was quick to judge him, but it wasn't his fault.  -Is this some kind of joke?! Is it?  -Quick, hide here. It is safer. | Line 1: -I was quick to judge him, but it wasn't his fault. (37)(4)  Line 2: -Is this some kind of joke?! Is it? (24)(4)  Line 3: -Quick, hide here. It is safer. (22)(4) |

## File Manipulator

Create a program that will receive commands until the command **"End"**. The commands can be:

* **"Create-{file\_name}"** - Creates the given file with empty content. If the file already exists, remove the existing text in it (as if the file is created again)
* **"Add-{file\_name}-{content}"** - Append the content and a new line after it. If the file does not exist, create it, and add the content
* **"Replace-{file\_name}-{old\_string}-{new\_string}"** - Open the file and replace all the occurrences of the old string with the new string. If the file does not exist, print: **"An error occurred"**
* **"Delete-{file\_name}"** - Delete the file. If the file does not exist, print: **"An error occurred"**

### Example

|  |  |
| --- | --- |
| **Input** | **Comment** |
| Create-file.txt  Add-file.txt-First Line  Add-file.txt-Second Line  Replace-random.txt-Some-some  Replace-file.txt-First-1st  Replace-file.txt-Second-2nd  Delete-random.txt  Delete-file.txt  End | The first command creates the empty file  After the first and second Add command, the content is:  First Line  Second Line  On the first Replace command, an error must occur  After the next two Replace commands, the content is:  1st Line  2nd Line  After the first Delete command, an error occurs  Finally, the 'file.txt' file is deleted |

## Directory Traversal

Write a program that traverses a given **directory** for **all** **files**. Search through the **first** **level** of the **directory** **only** and write information about each **found** file in **report.txt**. The files should be **grouped** by their **extension**. **Extensions** should be **ordered** by **name alphabetically**. The files with extensions should **also be sorted by name**. **report.txt** should be saved in the chosen **directory**.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Directory View** | **report.txt** |
| . |  | .html  - - - index.html  .js  - - - index.js  .pptx  - - - demo.pptx  .py  - - - program.py  - - - python.py  .txt  - - - log.txt  - - - notes.txt |