

COE203 Section 2 Project 1: Extension Sorter

Presenter:

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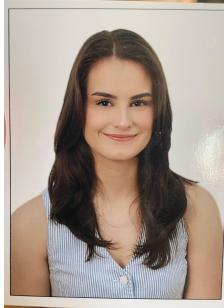
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Code Introduction

- We built a smart download manager called “Extension Sorter”, with both “.py” and “.exe” options available.
- Extension Sorter moves files inside a folder, on the same directory as the script/executable named “Downloads”, into other folders that it creates according to extensions automatically.
- As a result, files with extensions move into a folder named after their extension and extensionless files move into a folder named “Extensionless”.

Run Example

Before running:

```
...  
├── Extension Sorter.py  
├── Extension Sorter.exe  
└── Downloads  
    ├── report.pdf  
    ├── photo.jpg  
    └── note
```

After running:

```
...  
├── Extension Sorter.py  
├── Extension Sorter.exe  
├── PDF  
│   └── report.pdf  
├── JPG  
│   └── photo.jpg  
└── Extensionless  
    └── note
```

Run Steps



Step 1: Place the “.py” or “.exe” in any directory.



Step 2: Keep a folder named “Downloads” in the same directory (the code creates it if it is missing).



Step 3: Put the files into the “Downloads” folder.



Step 4: Run the “.py” or “.exe” and extension_sorter() function inside the code is called automatically.

Code Explanation

```
# importing libraries
import os, shutil, sys
# define
def extension_sorter():
    # find source file
    if getattr(sys, 'frozen', False):
        base_folder = os.path.dirname(sys.executable)
    else:
        base_folder = os.path.dirname(os.path.abspath(__file__))
    # assign source file
    source_folder = os.path.join(base_folder, "Downloads")
    # add file if it does not exist
    os.makedirs(source_folder, exist_ok=True)
    # get file list
    files = os.listdir(source_folder)
    if not files:
        # return if downloads is empty
        return
    for file_name in files:
        source_path = os.path.join(source_folder, file_name)
```

- This is the part before looping through the files begin.
- It contains getting the path of or creating the “Downloads” folder, then getting the names of the files inside “Downloads”.

Code Explanation

```
if os.path.isfile(source_path):
    # taking the "." at the far right
    if '.' in file_name:
        ext = file_name.split('.')[ -1 ].lower()
    else:
        ext = ""
    # "Extensionless" file for extensionless files
    if ext == "":
        folder_name = "Extensionless"
    else:
        folder_name = ext.upper()
    # target file
    destination_folder = os.path.join(base_folder, folder_name)
    os.makedirs(destination_folder, exist_ok=True)
    # file movement
    shutil.move(source_path, os.path.join(destination_folder, file_name))
    print(f"{file_name} moved to {folder_name}.")
print("\nAll files are moved according to their extensions.")

# run
extension_sorter()
# for .exe: pyinstaller --onefile --noconsole "Extension Sorter.py"
```

- This is the part with looping through the files begins and ends.
- It contains checking the name of each file and depending on the part after the last dot, file gets moved.

Pros & Cons

Pros:

- Both .py and .exe options are available.
- Easy to use.

Cons:

- Directory and folder dependent.
- Non-customisable.

Summary

- We developed a program called “Extension Sorter” that can organize files according to extensions automatically.
- Extension Sorter uses os, shutil and sys libraries.
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The End

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