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Problem Description

In this project we are expected to implement a file utility program that will traverse directories and report path names of files that satisfies some conditions given by the user in some command line arguments. We are expected to implement this program in Python and if multiple options are given the files satisfying conditions of all options will be returned.

Implementation

In our implementation we used argument parser to parse arguments. The program first traverses the directories given, if nothing is given it traverses the current directory and adds path of every file that it has visited to fileList. After that it eliminates the files in terms of size and time. This is where we handle 'bigger', 'smaller', 'before', 'after' and 'match'. We used some functions to facilitate our job, first of them is convertTime which converts the given time into unix timestamp format and the second one is convertSize which converts a given size to bytes. After that program checks if there is a zip option and zips the remaining files after elimination, it also handles the files that have the same name, then it checks for delete option and deletes remaining files. After that it calls the handleDuplName function if there's duplname option, that function produces a pair list of names of the files and paths of the files and sorts them in terms of their names to find sets that contain the same named files and prints if there is no nofilelist option. handleDuplCont functions works in the same manner to this one but only difference is it produces pairs as hashes of the files and file paths. Finally if it cannot find any 'dupl' option it checks for the nofilelist option and if that doesn't exist it prints the non eliminated files.

Conclusion and Evaluation

In our days Python is quite a popular programming language and very useful one. This project helped us to learn its syntax and how can we use this language in an efficient manner. Our program is handling every task that is given.

How to Run

Used python3 while writing and testing the program so there may be some problems if you use python2. If you want to make it executable, you can use pyinstaller. Commands are given below.

```
pip install pyinstaller
pyinstaller yourprogram.py
```