1. **How do you distinguish between shutil.copy() and shutil.copytree()?**
   * shutil.copy(src, dst) copies a single file from the source (src) to the destination (dst). It does not copy directories.
   * shutil.copytree(src, dst) recursively copies an entire directory tree from the source (src) to the destination (dst). It copies all files and subdirectories within the directory.
2. **What function is used to rename files?**
   * The os.rename(src, dst) function is used to rename files. It can also be used to move files to a different directory if the destination path is different from the source path.
3. **What is the difference between the delete functions in the send2trash and shutil modules?**
   * The shutil.rmtree(path) function permanently deletes files and directories. Once deleted, they cannot be recovered.
   * The send2trash.send2trash(path) function sends files and directories to the system's trash or recycle bin, allowing for potential recovery.
4. **ZipFile objects have a close() method just like File objects' close() method. What ZipFile method is equivalent to File objects' open() method?**
   * The ZipFile() constructor is equivalent to the open() method for File objects. It is used to open a ZIP file for reading, writing, or appending:

with zipfile.ZipFile('example.zip', 'r') as zip\_ref:

# Perform operations on the ZIP file

1. **Create a program that searches a folder tree for files with a certain file extension (such as .pdf or .jpg). Copy these files from whatever location they are in to a new folder.**
   * Here is an example program that does this:

import os

import shutil

def copy\_files\_by\_extension(src\_folder, dst\_folder, extension):

# Ensure the destination folder exists

if not os.path.exists(dst\_folder):

os.makedirs(dst\_folder)

# Walk through the source folder tree

for foldername, subfolders, filenames in os.walk(src\_folder):

for filename in filenames:

if filename.endswith(extension):

# Construct full file path

src\_file = os.path.join(foldername, filename)

# Copy the file to the destination folder

shutil.copy(src\_file, dst\_folder)

print(f'Copied: {src\_file} to {dst\_folder}')

# Example usage

src\_folder = 'path/to/source/folder'

dst\_folder = 'path/to/destination/folder'

extension = '.pdf' # Change this to the desired file extension

copy\_files\_by\_extension(src\_folder, dst\_folder, extension)

* + This program will search the src\_folder tree for files with the specified extension (e.g., .pdf) and copy them to the dst\_folder.