Here’s a breakdown of the questions regarding file operations and working with files in Python:

1. \*\*How do you distinguish between `shutil.copy()` and `shutil.copytree()`?\*\*

- `shutil.copy(src, dst)` copies a single file from `src` to `dst`. If `dst` is a directory, the file is copied into that directory with the same name.

- `shutil.copytree(src, dst)` recursively copies an entire directory tree from `src` to `dst`. It copies all files and subdirectories in `src` to the new directory `dst`.

2. \*\*What function is used to rename files?\*\*

- The `os.rename(src, dst)` function is used to rename files. It moves the file from the source path `src` to the destination path `dst`.

3. \*\*What is the difference between the delete functions in the `send2trash` and `shutil` modules?\*\*

- `send2trash.send2trash(path)` moves the file or directory to the system's trash or recycle bin, allowing for recovery if needed.

- `os.remove(path)` (from `shutil` and `os` modules) deletes the file permanently. `shutil.rmtree(path)` removes a directory tree (directory and all its contents) permanently.

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` method equivalent to `File` objects’ `open()` method is the `ZipFile()` constructor. It opens a ZIP file for reading or writing.

5. \*\*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’s a Python program to accomplish this task using the `os` and `shutil` modules:

```python

import os

import shutil

def find\_and\_copy\_files(src\_folder, dst\_folder, file\_extension):

"""

Search for files with a certain extension in a folder tree and copy them to a new folder.

:param src\_folder: Source folder to search in

:param dst\_folder: Destination folder to copy files to

:param file\_extension: File extension to search for (e.g., '.pdf')

"""

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

os.makedirs(dst\_folder) # Create destination folder if it doesn't exist

for root, dirs, files in os.walk(src\_folder):

for file in files:

if file.endswith(file\_extension):

src\_file = os.path.join(root, file)

dst\_file = os.path.join(dst\_folder, file)

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

print(f"Copied {src\_file} to {dst\_file}")

# Example usage

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

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

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

find\_and\_copy\_files(src\_folder, dst\_folder, file\_extension)

```

Replace `path/to/source/folder` and `path/to/destination/folder` with the actual paths. You can also change the `file\_extension` to `.jpg` or any other file extension you want to search for.