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

shutil.copy(src, dst):

* The shutil.copy() function is used to copy a single file from a source location to a destination location.
* It takes two arguments: src (source) and dst (destination), which are strings representing the paths of the source file and the destination file, respectively.
* If the destination file already exists, it will be overwritten by the source file.

shutil.copytree(src, dst):

* The shutil.copytree() function is used to recursively copy an entire directory (including its subdirectories and files) from a source location to a destination location.
* It takes two arguments: src (source) and dst (destination), which are strings representing the paths of the source directory and the destination directory, respectively.
* If the destination directory already exists, a FileExistsError is raised.

1. What function is used to rename files??

The shutil.move() function is commonly used to rename files in Python. Although its primary purpose is to move files or directories to a new location, it can also be used to rename files by moving them within the same directory with a different name.

import shutil

# Rename the file from "old\_name.txt" to "new\_name.txt"

shutil.move("old\_name.txt", "new\_name.txt")

1. What is the difference between the delete functions in the send2trash and shutil modules?

send2trash module:

* The send2trash module provides a safe way to delete files or directories by moving them to the operating system's trash or recycle bin instead of permanently deleting them.
* It provides the send2trash() function, which accepts a file or directory path as an argument and moves it to the trash or recycle bin, depending on the operating system.
* This approach allows for a recovery option in case the deletion was accidental or undesired.

shutil module:

* The shutil module offers various functions for file and directory operations, including deletion.
* The shutil.rmtree() function can be used to delete a directory and its entire contents recursively, while os.remove() or os.unlink() can be used to delete individual files.
* Unlike send2trash, these functions permanently delete the files or directories without moving them to the trash or recycle bin.
* It's important to exercise caution when using these functions, as the deleted files or directories cannot be easily recovered.

4.ZipFile objects have a close() method just like File objects’ close() method. What ZipFile method is equivalent to File objects’ open() method?

The equivalent method in the ZipFile class to the open() method of file objects is the ZipFile() constructor.

When working with regular file objects, you use the open() method to open and access the contents of a file. Similarly, when working with ZIP files, you use the ZipFile() constructor to open and access the contents of a ZIP archive.

import zipfile

# Open the ZIP file in read mode

zip\_file = zipfile.ZipFile("archive.zip", "r")

1. Create a programme 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.

import os

import shutil

def search\_and\_copy\_files(source\_folder, target\_folder, extension):

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

for file in files:

if file.endswith(extension):

source\_path = os.path.join(root, file)

target\_path = os.path.join(target\_folder, file)

shutil.copy2(source\_path, target\_path)

print(f"Copied: {source\_path} to {target\_path}")

# Example usage

source\_folder = "/path/to/source\_folder"

target\_folder = "/path/to/target\_folder"

file\_extension = ".pdf"

search\_and\_copy\_files(source\_folder, target\_folder, file\_extension)