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

Ans1

shutil.copy(src, dst) is used to copy a single file from src to dst. The src parameter is the path to the file to be copied, and the dst parameter is the path to the destination directory where the file will be copied. If dst is a filename, the file will be copied to that path with the same filename as the original file.

shutil.copytree(src, dst) is used to copy an entire directory tree from src to dst. The src parameter is the path to the source directory, and the dst parameter is the path to the destination directory where the directory tree will be copied. The entire directory tree rooted at src will be recursively copied to the dst directory.

|  |  |
| --- | --- |
| Shutil.copy() | Shutil.copytree() |
| can only copy a single file  If the destination file or directory exists, it will overwrite it  preserves the permissions and other metadata of the original file  If the source file or directory is a symbolic link, it will copy the link itself  returns the path to the copied file | can copy an entire directory tree  If the destination file or directory exists, it will raise an error  does not preserve the metadata of the files and directories it copies  If the source file or directory is a symbolic link, it ill copy the link target  does not return anything. |

2. What function is used to rename files??

Ans2

os.rename() function

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

Ans3

The send2trash and shutil modules provide functions to delete files and directories.

send2trash provides a simple way to delete files and directories by moving them to the system trash or recycle bin instead of permanently deleting them.

This makes it a safer alternative to os.remove() and shutil.rmtree() because the deleted files can be easily restored if needed.

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

Ans4

The equivalent method in the ZipFile class to the open() method in the File class is the ZipFile() constructor method.

The ZipFile() constructor method is used to create a new ZipFile object, which represents a ZIP archive. The ZipFile() constructor takes a filename as a parameter and returns a ZipFile object that can be used to read, write, and manipulate the files in the archive.

Eg

import zipfile

with zipfile.ZipFile("archive.zip", "r") as myzip:

myzip.extractall("extracted\_files")

5. 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.

Ans5

import os

import shutil

def copy\_files\_with\_extension(src\_folder, dest\_folder, extension):

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

for filename in filenames:

if filename.endswith(extension):

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

dest\_path = os.path.join(dest\_folder, filename)

shutil.copy2(src\_path, dest\_path)

print(f"Copied {filename} from {src\_path} to {dest\_path}")

src\_folder = "C:/Users/Username/Documents"

dest\_folder = "C:/Users/Username/Desktop/copied\_files"

extension = ".pdf"

copy\_files\_with\_extension(src\_folder, dest\_folder, extension)