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

2. What function is used to rename files??

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

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

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.

Answers

1. **Distinguishing Between shutil.copy() and shutil.copytree()**:
   * shutil.copy(src, dst) copies a **single file** from src to dst.
   * shutil.copytree(src, dst) recursively copies an **entire directory tree** (including all files and subdirectories) from src to dst.
   * Example:
   * import shutil
   * src\_file = 'source/file.txt'
   * dst\_file = 'destination/file.txt'
   * shutil.copy(src\_file, dst\_file) # Copies file.txt
2. **File Renaming**:
   * To rename a file, you can use the os.rename() function.
   * Example:
   * import os
   * old\_name = 'old.txt'
   * new\_name = 'new.txt'
   * os.rename(old\_name, new\_name) # Renames old.txt to new.txt
3. **Difference Between send2trash and shutil Delete Functions**:
   * shutil functions (os.remove(), os.rmdir(), etc.) permanently delete files/folders.
   * send2trash sends files/folders to the system’s trash or recycle bin (recoverable).
   * Example:
   * import send2trash
   * file\_to\_delete = 'file.txt'
   * send2trash.send2trash(file\_to\_delete) # Moves file.txt to trash
4. **Equivalent of open() for ZipFile**:
   * The equivalent method in the zipfile module to File objects’ open() method is zipfile.ZipFile().
   * Example:
   * import zipfile
   * with zipfile.ZipFile('archive.zip', 'r') as myzip:
   * with myzip.open('document.txt') as myfile:
   * content = myfile.read()
5. **Program to Search and Copy Files with Specific Extensions**:
   * Let’s create a program that searches for .pdf files and copies them to a new folder:
   * import os
   * import shutil
   * def copy\_files\_with\_extension(source\_dir, dest\_dir, extension):
   * for root, dirs, files in os.walk(source\_dir):
   * for file in files:
   * if file.lower().endswith(extension.lower()):
   * src\_path = os.path.join(root, file)
   * dst\_path = os.path.join(dest\_dir, file)
   * shutil.copy2(src\_path, dst\_path)
   * source\_directory = '/path/to/source'
   * destination\_directory = '/path/to/destination'
   * file\_extension = '.pdf'
   * copy\_files\_with\_extension(source\_directory, destination\_directory, file\_extension)