

## **File Management Projects**

### **1. Automatic File Sorter**

**Description:** Create a script that organizes files in a folder based on their types. The script should scan a directory, find file extensions, and move files into suitable subfolders (e.g., Documents, Images, Videos).

**Skills:** File handling, string manipulation, if-else statements, making folders

### **2. Bulk File Renamer**

**Description:** Build a tool to rename many files using patterns or rules. Let users specify naming conventions, add prefixes or suffixes, and use counters or dates in filenames.

**Skills:** Loops, regular expressions, command-line inputs, string formatting

### **3. Duplicate File Finder**

**Description:** Make a script to find and list duplicate files in a folder. Use file size and content comparison to spot duplicates and offer choices to delete or move them.

**Skills:** File comparison, hashing, arrays, user interaction

### **4. File Backup System**

**Description:** Develop a program to back up important files to another place. Include options for full and partial backups, compression, and scheduling.

**Skills:** File copying, date/time handling, scheduling, compression methods

### **5. Disk Space Analyzer**

**Description:** Write a tool to show which folders and files use the most space. Create a tree-like structure to display disk usage and offer options to sort and filter results.

**Skills:** Recursion, data sorting, output formatting, data visualization

### **6. File Encryption Tool**

**Description:** Create a script to encrypt and decrypt files using a password. Implement a safe encryption method and handle key management securely.

**Skills:** Cryptography basics, input/output redirection, secure coding

### **7. File Sync Utility**

**Description:** Develop a program to keep files in sync between two folders. Implement two-way synchronization and handle conflict resolution.

**Skills:** File comparison, error handling, logging, conflict management