**Exercise 1: Count Characters in a Text File**

**Write a program that reads a text file and counts the total number of characters (including whitespace).**

**Exercise 2: Merge Two Files**

**Write a program that reads two text files and merges their contents into a new file.**

**Exercise 3: Find Longest Word**

**Write a program that reads a text file and finds the longest word in it.**

**Exercise 4: Copy Binary File**

**Write a program to copy a binary file (e.g., image) to a new file.**

**Exercise 5: Read Line Numbers**

**Write a program that reads a text file and prefixes each line with its line number.**

**Exercise 6: Reverse File Contents**

**Write a program that reads a text file and writes its contents in reverse order to another file.**

**Exercise 7: Word Frequency Counter**

**Write a program that reads a text file and counts the frequency of each word.**

**Exercise 8: File Encryption**

**Write a program that reads a text file and encrypts its contents using a simple cipher.**

**Exercise 9: Search for a Keyword**

**Write a program that searches for a specific keyword in a text file and displays the lines containing the keyword.**

**Exercise 10: File Statistics**

**Write a program that reads a text file and displays statistics such as the number of lines, words, and characters.**

**Exercise 11: Word Reversal**

**Write a program that reads a text file, reverses the order of words in each line, and saves the modified content to a new file.**

**Exercise 12: File Comparison**

**Write a program that reads two text files and compares their contents, reporting whether they are identical or not.**

**Exercise 13: File Permissions**

**Write a program that checks the read and write permissions of a file and displays the result.**

**Exercise 14: Replace Text**

**Write a program that reads a text file, replaces occurrences of a specific word with another word, and saves the modified content to a new file.**

**Exercise 15: Directory Size**

**Write a program that calculates and displays the total size of a directory and its contents.**

**Exercise 16: File Deletion with Confirmation**

**Write a program that prompts the user to confirm before deleting a file.**

**Exercise 17: Directory Listing**

**Write a program that lists all files and directories in a specified directory.**

**Exercise 18: Backup Files**

**Write a program that creates a backup of a file by copying its content to a new file with a timestamp in the filename.**

**Exercise 19: File Splitter**

**Write a program that reads a large file and splits it into smaller files of a specified size.**

**Exercise 20: Word Search**

**Write a program that prompts the user to enter a word and searches for all occurrences of that word in a text file.**

**Exercise 21: File Renaming**

**Write a program that renames a file by changing its name and extension.**

**Exercise 22: File Concatenation**

**Write a program that concatenates the contents of multiple text files into a single file.**

**Exercise 23: Binary Data Statistics**

**Write a program that reads a binary file and calculates the total number of bytes and the average byte value.**

**Exercise 24: Directory Structure**

**Write a program that generates a tree-like representation of a directory structure.**

**Exercise 25: File Date Comparison**

**Write a program that reads two files and compares their last modified dates, reporting which file is more recent.**

**Exercise 26: Directory Copy**

**Write a program that copies the contents of one directory to another directory.**

**Exercise 27: File Permissions Check**

**Write a program that checks if a file is readable and writable.**

**Exercise 28: File Timestamp Update**

**Write a program that updates the last modified timestamp of a file to the current time.**

**Exercise 29: File Line Remover**

**Write a program that reads a text file and creates a new file without the lines that contain a specific keyword.**

**Exercise 30: Word Frequency Analysis**

**Write a program that reads a text file, analyzes the frequency of each word, and displays the most frequent words along with their counts.**