

CS201 - Decoding Substitution Ciphers

Create a subdirectory of your home directory named `apr22`, and place your solutions there in a file named `decrypt1.c`.

Write a C program that reads text from a file named as a command line argument and counts the number of times each lower case letter (or space) appears in the file. ¹ Sort the letters in decreasing frequency, and print the results. Then use the relative frequency of letters and spaces in common English to *guess* the mostly likely substitution cipher. Reread and print the file (to `stdout`) using the most likely cipher.

For example, in common English, the most frequent characters are space, 'e', 't', 'a', etc. Suppose when you read the file, the most common characters are 'w', 'x', 'y' and 'z'. Then your program should *guess* that 'w' stands for a space, 'x' for 'e', 'y' for 't', 'z' for 'a', etc.

¹The input file will contain only lower case letters, spaces, and newlines. Count newlines the same as spaces.