This practice comes from Chapter 8. Streams – End-of-Chapter Exercises - Programming Projects - P8.7.

**Understanding the problem:** Creating encryption OR decryption using a keyword in the command prompt and a reversed alphabet, given an input file and output file.

Example, if we are going to encrypt,

crypt -d -kFEATHER input.txt output.txt

Here we are using FEATHER as the keyword, by appending the alphabet in reversed order and removing duplicate letters, the actual cypher is:



We are using 5 arguments in the command line and focus only on encryption

**Step 1:** Inputs and outputs

The inputs that come to mind are:

1. Program name
2. “-e” for encryption
3. Keyword for encryption
4. Input file stream variable
5. Output file stream variable
6. Other counter variables as needed

**Step 2:** Break problem into smaller tasks

* After appending keyword to reversed alphabet
* Check updated cypher for duplicates
  + If duplicates are found, remove them
* Cypher is now ready to help with encryption

**Step 3:** Describe each section in pseudocode

* Our approach was to make it as simple as possible, due to time constraints, no functions were possible to make, just the steps in general for execution

1. Create file stream variables
2. Identify the command line prompts
3. Append reversed alphabet keyword
4. Remove any duplicates
5. Open input and output file streams
   1. Make sure to check for errors if file opening fails
6. Create encryption
   1. Using a WHILE loop to read the input file
   2. Use the SWITCH statement to assign the regular alphabet to the new cypher alphabet created.
   3. Make sure to output the new cypher message on the output file.
7. As a reference, print out the cypher use at the end of program.

**Step 4:** Test pseudocode by working on a few problems

Using Keyword: FEATHER,

A screenshot of a computer screen

AI-generated content may be incorrect.

Input and Output file results after execution,

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AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.

Using keyword: HOLA

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AI-generated content may be incorrect.Input and Output file results after execution,

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Other testing for file missing errors,

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To run program from the command-line, make sure to add MinGW compiler for C++. The instructions are in this youTube video:

<https://youtu.be/tg9BGzygClI?si=GRf5ShPIEuTwBTmx>

mingw-w64.org/downloads

**Reference**

OttoBotCode. (2022, September 16). *Compile and Run C/C++ Programs from CMD (Install MinGW Compiler on Windows) [Video].* YouTube. <https://youtu.be/tg9BGzygClI?si=GRf5ShPIEuTwBTmx>

At the end, our team decided to run it normally, the command line arguments were removed and final project was revised with help of Clint and Jeremy to set it up as below example:

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A screenshot of a computer

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