Lab 5: Messaging System

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Algorithm

This lab required the creation of a messaging system that encrypts messages with the Vigenere cypher. This will require a class that handles encryption and decryption of a word using the Vigenere cypher algorithm. This class will also need to be able to store the secret key used for cypher encryption. Additionally, a class should be created to store an encrypted message. This class should use the cypher class to encrypt words and store each word given in a list. This list can be used to show the message at a later point.

The driver will create a menu allowing the user to choose to encrypt a file, decrypt a file or exit the program. This will require a loop so that the user can continue encrypting or decrypting messages as many times as they require. When a file is to be encrypted or decrypted it should first ask the user for a file. It should then ask for a cypher key. Using the class representing a message, it should read each line of the file and tokenize it. Every individual word should be passed to the message class for cyphering and storage. Then the user should be prompted for a filename to write the resulting code to. The whole message will be written to the file given and displayed to the user. Then the main loop will continue and the user will be prompted for a menu selection.

Screen-Shots of Running Program

A screenshot of a computer

Description automatically generatedA screen shot of a computer

Description automatically generated

Integrity Statements

* I have not shared the source code in my program with anyone other than the pre-approved human sources.
  + *Please include a note here if you have used one or more of the pre-approved human sources or received special permission from me.*
* I have not used source code obtained from another student, or any other unauthorized source, either modified or unmodified.
* If any source code or documentation used in my program was obtained from another source, such as the course textbook or course notes, that has been clearly noted with a proper citation in the comments of my program.
  + *It would also be helpful to include a note here of which sources you used*
* I have not knowingly designed this program in such a way as to defeat or interfere with the normal operation of any machine it is graded on or to produce apparently correct results when in fact it does not.