**Encryption Coding**

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CS 405 – Secure Coding

Professor Mike Alesso

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**Screenshots**

Console Output

A screenshot of a computer

Description automatically generated

inputdatafile.txt

A screenshot of a computer

Description automatically generated

encrypteddatafile.txt

A screenshot of a computer program

Description automatically generated

decrypteddatafile.txt

A screenshot of a computer

Description automatically generated

**Process Summary**

For this assignment, I started by creating a new VisualStudio Project, copying the provided source code into my project, and then placing the “inputdatafile.txt” file into the appropriate location for my program to run correctly. I then analyzed the code to gain an understanding of how the program is intended to run. I began working with the first TODO, and by utilizing the resources provided for this week’s module, I was able to implement the logic “transform each character based on an xor of the key modded constrained to key length using a mod.” I actually found this to be the easiest part of the assignment, and I had to re-learn a little on how to work with output files as it has been some time since I last wrote a program that wrote data to a file.

Next, I completed the TODO to implement loading a file into a string and then following the structure provided in the comments, I wrote the code to write and save the data to a file. It has also been a while since I last worked with time in C++, therefore I did have to spend a little bit of time getting reacquainted working with time functions and extracting specific attributes, such as the year, month, and day. Once I was able to do that, writing the data to the file was fairly straightforward. While completing each of the TODOs, I would compile and run my code to ensure the application was working as intended.