**What it does:**

My application is a cipher text excel file encryption program. It uses a cipher table found on the second sheet of the file to encrypt every single character in an excel file. It then outputs each sheet from the input excel file into a separate .crzy file named after the worksheet. The program works best with ASCII value data in the input cells. For example, it will not encrypt formulas, but instead take the data value of that cell and encrypt it.

The steps that it takes are as follows:

**Encryption:**

1. Program will ask user to give the location of the excel file of which to encrypt each worksheet.
2. Program will ask user to input the desired directory in which to output the .crzy files to.
3. Sub will loop through each sheet, convert each line to an array.
4. Each cell in that array will then be encrypted and written into a .crzy file.
   1. Each character in the original array will be encrypted according to a VLOOKUP encryption algorithm found in the applications second sheet, titled “Encryption Table”.
   2. It will be separate by “|” and each line will represent an excel row.
5. This new encrypted string will be outputted to a file that matches the name of the sheet in the directory specified.
   1. Write to database the file being encrypted, the sheet name, number of characters encrypted, the translation factor, the date of the encryption, and the output file directory.
   2. Append to word file a chart containing how many cells were processed in each cell.

**Decryption:**

1. Program will ask user where they would like the outputted .xlsx file to be, and the name of the file
2. Program will ask users how many .crzy files they want to decrypt
3. Program will ask users to give full file locations of the .crzy files
4. Sub will loop through each line of the .crzy file and decipher each cell / character according to a table titled “Decryption Table” in the second sheet. It will use VLOOKUP to find the corresponding deciphered characters.
5. Will then paste each deciphered cell according to where it should be in the worksheet. Remember that each line in the .crzy file is a row in the worksheet, and each “|” represents a column separator in the worksheet.
6. Program will then save outputted .xlsx file where the user dictated
   1. Write to database the file being encrypted, the sheet name, number of characters encrypted, the translation factor, the date of the encryption, and the output file directory.
   2. Append to word file a chart containing how many cells were processed in each cell.

**Why I chose it:**

I’ve been interested in encryption ever since I was 12 years old, when I used OCLHashcat to encrypt and crack MD5 Checksum passwords. A career in cyber security was always on my mind and I thought of this as not only a great way to develop my skills in both VBA and Encryption, but also to add something to my resume when applying for co-op jobs this winter. I had a lot of fun coding this program and spent 2 and a half full days working on it. I wanted a program that was a challenge to write, yet useful, and this fit the bill.