

## Project 4 EXTRA CREDIT – Vigenère cipher

### Overview

---

This project is to implement the Vigenère cipher: an early form of encryption for text. This form of encryption was first used around the year 1500, and was thought to be unbreakable until 1868. With an appropriately sized truly random key, this can be 'perfect' encryption.

### Requirements

---

Your program should be able to both encrypt and decrypt files. It will first ask if the user is encrypting or decrypting. It will then ask for the input file, the output file, and finally it will have the user type the encryption key. If encrypting, the ciphertext should be written to the output file. If decrypting, the decrypted plaintext should be written to the output file.

### Encryption Details

---

You should encrypt only alphabetical characters. Any character which isn't a letter (punctuation, numbers) should be written to the output file without modification. White space (spaces, newlines) may be removed if you like. Your encryption should also CAPITALIZE all letters and the encryption key should be all CAPITAL letters. This capitalization was done to simplify things, but if you want to support lower case then go ahead.

### Sample Output

---

Below is an idea of what kind of output your program should have.

```
Are you encrypting or decrypting? 1 for encrypt, 2 for decrypt: 1
Input file name: wordsSimple.txt
Output file name: wordsSimpleEncoded.txt
Please enter the encryption key: WAFFLES
Encryption complete.
```

### Programming Languages

---

You may use any programming language as long as you confirm it with me first. This course will be centered on Java so that is my recommendation.

### Grading

---

**The assignment extra credit and worth up to 50 points.**

### Submitting your work

---

Your work should be submitted as an archive (.zip, .7z, .rar) on Moodle. This archive should include all of your source code files. Please do not submit your entire project folder.

**This project is due Wednesday, May 1<sup>st</sup> at 12:15pm.**

**NO LATE SUBMISSIONS WILL BE ALLOWED**