

MTH 4772  
Project  
Instructor: Eddie Cheng

**Instructions:**

This is an optional project for those who would like to work on a cryptography project. If you choose to submit this project, then the assignments are worth 30% of your grade, the midterm is worth 20% of your grade, the project is worth 20% of your grade and the final is worth 30% of your grade.

In this project, the plaintext has no spaces and no punctuations. So your first task is to remove them. (This is just a short program that you can write in a few minutes.)

- (1) Write a program that will encrypt the plaintext using a Vigenère cipher with an English word as the key.
- (2) Write a program that will decrypt the ciphertext created by a Vigenère cipher (with the key).
- (3) Write a program to break the Vigenère cipher. You may assume that the key is an English word in the dictionary. Feel free to link your program to a dictionary.