Cryptography-CS362, Assignment 1
Topic: Classical Ciphers
Assignment Due Date: 11/2/2022

The below cipher text was generated using Caeser cipher.

G JOYGJBGTZGMK UL ZNK MKTKXGR YAHYZOZAZOUT IOVNKX OY ZNGZ HUZN YKTJKX GTJ XKIKOBKX SAYZ IUSSOZ ZNK VKXSAZKJ IOVNKX YKWAKTIK ZU SKSUXE. G IUSSUT ZKINTOWAK LUX GBUOJOTM ZNOY OY ZU AYK G QKECUXJ LXUS CNOIN ZNK IOVNKX YKWAKTIK IGT HK MKTKXGZKJ. LUX KDGSVRK, AYOTM ZNK QKECUXJ IOVNKX, CXOZK UAZ ZNK QKECUXJ LURRUCKJ HE ATAYKJ RKZZKXY OT TUXSGR UXJKX GTJ SGZIN ZNOY GMGOTYZ ZNK VRGOTZKDZ RKZZKXY

1. Write a program to perform brute force attack on the given cipher. Your program should take as an input any ciphertext generated using Caeser Cipher Encryption algorithm. The output of the program should be the key value using which cipher text was generated. Automate the process of identifying the legitimate plaintext generated from each key e.g. assume that the plaintext was English text. Your program should include logic that can identify English text in the brute force attack. Submit in form of folder that contain source code, executable file and steps to run your program.

2. We know that Brute force analysis is straightforward as there are only 25 possible keys. However, the below assignment is to illustrate the use of frequency analysis for breaking the cipher.
   You can use the program given in below link which will help you to carry out frequency analysis attack for such ciphertext produced by a monoalphabetic cipher.
   http://crypto.interactive-maths.com/frequency-analysis-breaking-the-code.html
   Your goal is to find the plaintext, as well as the key employed for the above encryption. Clearly explain the methodology i.e. how you could break the code step by step while performing the frequency analysis.