

Homework 1

1) Decrypt the following encrypted quotation.

fqjcb rwjwj vnjax bnkhj whxcq nawjv nfxdu mbvnu ujbfb nnc

f = 3 q = 2 j = 7 c = 3 b = 5 r = 1 w = 4 v = 3 n = 7 a = 2 x = 3 k = 1 h = 2 d = 1 u = 3 m = 1

Most commonly used letters are e and a. First substituting e with j I get a shift of 5. I got my key as:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

V W X Y Z A B C D E F G H I J K L M N O P Q R S T U

Substitution gave me ALEXW MRERE QIEVS ... which made no sense. So I tried it with substituting e for n. I got a shift of 9. That gave me a key of:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

R S T U V W X Y Z A B C D E F G H I J K L M N O P Q

This gave me the decrypted text

WHATS INANA MEARO SEBYA NYOTH ERNAM EWOUL DSMEL LASSW EET

Answer: Whats in a name a rose by any other name would smell as sweet

2) Decrypt the following encrypted quotation.

oczmz vmzor jocdi bnojv dhvod igdaz admno ojbzo rcvot jprvi oviyv aozmo cvooj ziejt dojig toczr
dnzno jahvi fdyiv xcdzq zoczn zxjiy

a=4 b=2 c=7 d=9 e=1 f=1 g=2 h=2 i=9 j=9 m=4 n=5 o=18 p=1 q=1 r=4 t=3 v=10
x=2 y=3 z=13

I first substituted e with o since it is the most common letter. I then got the key:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Q R S T U V W X Y Z A B C D E F G H I J K L M N O P

This gave me ESPCP LCPEH ... which isn't making any sense. I then went with switching a with o and got the key:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

M N O P Q R S T U V W X Y Z A B C D E F G H I J K L

From this I got APLYL HYLAD ... which did not work. I then tried to switch z with e since z was the second most used letter in the encryption. This gave me the key:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

F G H I J K L M N O P Q R S T U V W X Y Z A B C D E

and this gave me THERE ARE TWO THINGS TO AIM AT IN LIFE FIRST TO GET WHAT YOU WANT AND AFTER THAT TO ENJOY IT ONLY THE WISEST OF MAN KIND ACHIEVE THE SECOND

Answer: There are two things to aim at in life first to get what you want and after that to enjoy it only the wisest of man kind achieve the second

3) Decrypt the following encrypted quotation.

pbegu uymiq icuuf guuyi qguuy qcuiv fiqgu uyqcu qbeme vp

b=2 c=3 e=3 f=2 g=4 i=5 m=2 p=2 q=6 u=12 v=2 y=4

First I tried to switch the u with e since it is the most common letter in the encryption. This gave me the key:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

K L M N O P Q R S T U V W X Y Z A B C D E F G H I J

This gave me ZLOQE ... which already does not make any sense. So I tried to switch u with a and got the key:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

G H I J K L M N O P Q R S T U V W X Y Z A B C D E F

This gave me VHKMA ... which is not right. I tried a bunch of different values after that and got nothing. So then I decided to change up how I went about figuring it out. I saw the pattern “guuy” happens 4 times so I’m guessing this is the same word. I decided u had to be either an o or an e since those make the most sense for a 4 letter word with double letters in the middle. After separating these out from the rest and substituting I got:

pbe gOOy miq icOOof gOOy iq gOOy qcOiv fiq gOOy qcO qbeme vp

pbe gEEy miq icEEf gEEy iq gEEy qcEiv fiq gEEy qcE qbeme vp

I noticed that there are three letters at the beginning so I decided to assume that it was the most used word “THE” since it started the sentence and was more likely than having a one letter word following a two letter word and vice versa. After substitution I got:

THE gOOy miq icOOof gOOy iq gOOy qcOiv fiq gOOy qcO qHEmE vT

I did not use the double e one since I was going to be using e to represent itself rather than the u. I noticed a two letter word between the gOOy’s. Most common ones are to, is, and at. It can’t be to since I already used the t. I went with “as” since the likelihood of I representing an I is low because e already did it. I could be wrong but if I am I can always go back and change it. This gives me:

THE gOOy mAS AcOOof gOOy AS gOOy ScOAv fAS gOOy ScO SHEmE vT

I then decided to trade m with w since the only three letter word ending in AS I could think of was the word was. This gave me: THE gOOy WAS AcOOf gOOy AS gOOy ScOAv fAS gOOy ScO SHEWE Vt

As I was plugging into the key what each letter was I noticed that the key was writing the letters backwards with a shift. After plugging in the rest of the letters I got the key:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

I H G F E D C B A Z Y X W V U T S R Q P O N M L K J

After substitutions I got: THE COOK WAS AGOOD COOK AS COOK SGOAN DAS COOK SGO SHEWE NT

Answer: The cook was a good cook as cooks go and as cooks go she went.