CECS 378 Lab #1 - Symmetric Cryptography

Due Date: 7 MAR 2019

60 points

Assignment Description. This assignment is designed to allow you to get some practice with cryptanalysis of substitution ciphers. Write a program that decrypts the following encrypted quotations. You may use any programming language that you like for your submission, but I recommend using something that makes text manipulation easy, like *Python.*

```
1. fqjcb rwjwj vnjax bnkhj whxcq nawjv nfxdu mbvnu ujbbf nnc

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

3. ejitp spawa qleji taiul rtwll rflrl laoat wsqqj atgac kthls iraoa
   twlpl qjatw jufrh lhuts qataq itats aittk stqfj cae

4. iyhqz ewqin azqej shayz niqbe aheum hnmnj jaqii yuexq ayqkn jbeuq
   iihed yzhni ifnun sayiz yudhe sqshu qesqa iluym qkque aqaqm oejjs
   hqzyu jdzqa diesh niznj jayzy uiqhq vayzq shsnj jejjz nshna hnmyt
   isnae sqfun dqzew qiead zevqi zhnjq shqze udqai jrmtq uishq ifnun
   siiqa suoij qqfni syyle iszhn bhmei squih nimnx hsead shqmr udquq
   uaqeu iisqe jshnj oihyy snaxs hqihe lsilu ymhni tyz
```

Additionally, you must write a second program that takes the following phrases and encrypts them using a substitution cipher. Your second program should ask for a key and a phrase and then proceed to encrypt that phrase using the given shared key. Make sure that you give me the key for the cipher that you use and the output of encrypted phrases.

```
1. He who fights with monsters should look to it that he himself does not
   become a monster. And if you gaze long into an abyss, the abyss also
   gazes into you.

2. There is a theory which states that if ever anybody discovers exactly
   what the Universe is for and why it is here, it will instantly
   disappear and be replaced by something even more bizarre and
   inexplicable. There is another theory which states that this has
   already happened.

3. Whenever I find myself growing grim about the mouth; whenever it is a
   damp, drizzly November in my soul; whenever I find myself
   involuntarily pausing before coffin warehouses, and bringing up the
   rear of every funeral I meet; and especially whenever my hypos get
   such an upper hand of me, that it requires a strong moral principle to
   prevent me from deliberately stepping into the street, and
   methodically knocking people's hats off - then, I account it high time
   to get to sea as soon as I can.
```

Kudos if you can tell me who said these quotes without searching the Internet for them.

Deliverables. Submit your source code to Beachboard along with the decrypted phrases. *Do not compress your files for submission.* Make sure that all code is **commented** with your own explanations or it will not be graded.