

Steven Dao
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Part 1 output phrases:

```
Enter the encrypted message (`\q` to stop input / quit):
>> fqjcb rwjwj vnjax bnkhj whxcq nawjv nfxdu mbvnu ujbbsf nnc
>> lq
Encrypted message: fqjcb rwjwj vnjax bnkhj whxcq nawjv nfxdu mbvnu ujbbsf nnc
- Most likely match: what sin ana me arose by any other name would smell ass wee t
  - Alphabet key: jklmnopqrstuvwxyzabcdefghi
  - Execution time: 21.183628189 seconds

Enter the encrypted message (`\q` to stop input / quit):
>> oczmz vmzor jocdi bnojv dhvud igdaz admno ojbzo rcvot jprvi oviyva
oazmo cvooj ziejt dojig toczr dznzo jahvi fdiiyv xcdzq zoczn zxjiy >>
>> lq
Encrypted message: oczmz vmzor jocdi bnojv dhvud igdaz admno ojbzo rcvot jprvi oviyva
oazmo cvooj ziejt dojig toczr dznzo jahvi fdiiyv xcdzq zoczn zxjiy
- Most likely match: there are two things to aim at in life first tog et what you want and
  after that toe n joy it only the wisest of mankind achieve these con d
  - Alphabet key: vwxyzabcdefghijklmnopqrstu
  - Execution time: 14.928372797 seconds

Enter the encrypted message (`\q` to stop input / quit):
>> ejitp spawa qlejti taiul rtwll rflrl laot wsqqj atgac kthls iraoatwlp
telpl qjata jufrrh lhuts qataq itats aittk stqfj cae >>
>> lq
Encrypted message: ejitp spawa qlejti taiul rtwll rflrl laot wsqqj atgac kthls iraoatwlp
telpl qjata jufrrh lhuts qataq itats aittk stqfj cae
- Most likely match: contrariwise continued tweed led ee if it was soit might bean d if it were soit
  would be but as it is nt ita in t that slog i c
  - Alphabet key: sherlockabdfgijmnpqtuvwxyz
  - Execution time: 13.858819321 seconds

Enter the encrypted message (`\q` to stop input / quit):
>> iyhgz ewqin azqej shayz niqbe aheum hnmnj jaqii yuexq ayqkn jbeuqi
ihed yzhni ifnun sayiz yudhe sqshu qesqa iluym qkque aqaqm oejjshqzyu
jdzqa diesh niznj jayzy uishq vayzq shsnj jejjz nshna hnmytisnae sqfun
dqzew qiead zevqi zhnjq shqze udqai jrmtq vishq ifnunsiiqa suoiq qqfni syyle iszhn bhmei squih nimnx
hsead shqmr udququaqueu iisqe jshnj oihyy snaxs hqihe lsilu ymhni tyz >> >> >> >>
>> lq
Encrypted message: iyhgz ewqin azqej shayz niqbe aheum hnmnj jaqii yuexq ayqkn jbeuqi
ihed yzhni ifnun sayiz yudhe sqshu qesqa iluym qkque aqaqm oejjshqzyu jdzqa diesh niznj jayzy uishq vayzq shsnj jejjz nshna hnmytisnae sqfun
dqzew qiead zevqi zhnjq shqze udqai jrmtq vishq ifnunsiiqa suoiq qqfni syyle iszhn bhmei squih nimnx
hsead shqmr udququaqueu iisqe jshnj oihyy snaxs hqihe lsilu ymhni tyz
- No match found.
  - Execution time: 13.03606894 seconds
```

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Part 2a - Encrypted phrases / keys:

```
Enter the message to encrypt (`q` to stop input / quit):
>> He who fights with monsters should look to it that he himself does not become a monster. And if you gaze long into an ab
>> \q
Enter the key (1-3 for default keys, `q` to quit):
>> 1
Original message: 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.
Encrypted message: svdsl urtsq hdnrg nlmhg vihhs lfowo llpgl rggss gsvsr nhvou wlvhm lgyvx lnvzn lmhgv izmwr ublft
                    zavoI mtrmg lzmzy bhhgs vzybh hzohl tzavh rmglb lf
- Alphabet key: zyxwvutsrqponmlkjihgfedcba

Enter the message to encrypt (`q` to stop input / quit):
>> There is a theory which states that if ever anybody discovers exactly what the Universe is for and why it is here, it wi
>> \q
Enter the key (1-3 for default keys, `q` to quit):
>> 2
Original message: 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.
Encrypted message: rebbp fqlre bmpwu efzeq rlrby relrf cbtbp lkwam ywyfq zmtbp qbvLz riwue lrreb skftb pqbfq cmlk
                    yuewf rfqeb pbfu fiifk qrlkr iwyfq lnnbl plkya bpbni lzbya wqmbj refkd btbkj mpbaf xlpbb lkyfk
                    bvnif zlaib rebbp fqlkm rebpr ebmpw uefze qrlrb qrelr refqe lqlip blywe lnnbk by
- Alphabet key: lazybcdefghijklmnopqrstuvwx

Enter the message to encrypt (`q` to stop input / quit):
>> Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find
>> \q
Enter the key (1-3 for default keys, `q` to quit):
>> 3
Original message: 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.
Encrypted message: rldc tcokx kdvfw icgxz osrkd zzokf mnsyu ulcfs yulrl cdctc okuki mvmfa vokqq gwdst cfnco kdfwi
                    sygrl cdctc okxkd vfwic gxkdt sgydu mokgw amyik dzncx socbs xxkdr mocls yicim dvnok dzkdz yaulc
                    ocmos xctco wxydc omgkf ccumd vciac bkmgg wrldc etcof wlwas izcui yblmd yaaco lmdvs xfcuI mukuo
                    cpyko cimiU osdzf somga okdbk agcus aoctc dufcx osfvc gknco mucgw iucaa kdzkd usulc iuocc umdvf
                    culsv kbmgg whdsb hkdza csagc ilmui sxxul cdkmb bsydu kulz lukfc uszcu usicm miiss dmikb md
- Alphabet key: mnbcvxzlkjhgfdsapoiuytrewq
```

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Part 2b - Decrypted phrases / keys:

```
Enter the message to decrypt (`q` to stop input / quit):
>> svdsl urtsg hdrqs nlmhg vihhs lfowo llpgl rggsz gsvsr nhvou wlvhm lgyvx lnvzn lmhgv izmwr ublft
    zaval mtrmg lzmzy bhhgs vzybh hzohl tzavh rmglb lf >>

>> lq
Enter the key (1-3 for default keys, `q` to quit):
>> 1
Encrypted message: svdsl urtsg hdrqs nlmhg vihhs lfowo llpgl rggsz gsvsr nhvou wlvhm lgyvx lnvzn lmhgv izmwr ublftzaval
    mtrmg lzmzy bhhgs vzybh hzohl tzavh rmglb lf
Decrypted message: how he fights with monsters should look to it that he himself does not become am
    on st era n d if you gaze long into ana by s st he abyssal
    so gazes into you
    - Alphabet key: zyxwvutsrqponmlkjihgfedcba

Enter the message to decrypt (`q` to stop input / quit):
>> rebpb fqlre bmpwu efzeq rlrpq relrf cbtbp lkwwa ywyfq zmtbp qbvzr riwue lrreb skftb pqbfq cmplk
    yuewf rfqeb pbfru fiifk qrlkr iwyfq lnnbl plkya bpbni lzbye wqmbj refkd btbkj mpbaf xlpbb lkyfk
    bvnif xlaib rebpb fqikn rebpr ebmpw uefze qrlrb qrelr refge lqlip blywe lnnbk by >> >>

>> lq
Enter the key (1-3 for default keys, `q` to quit):
>> 2
Encrypted message: rebpb fqlre bmpwu efzeq rlrpq relrf cbtbp lkwwa ywyfq zmtbp qbvzr riwue lrreb skftb pqbfq cmplkyuewf
    rfqeb pbfru fiifk qrlkr iwyfq lnnbl plkya bpbni lzbye wqmbj refkd btbkj mpbaf xlpbb lkyfkbnif xlaib
    rebpb fqikm rebpr ebmpw uefze qrlrb qrelr refge lqlip blywe lnnbk by
Decrypted message: there is at he or y 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
    - Alphabet key: lazybcdefghijklmnopqrstuvwxyz

Enter the message to decrypt (`q` to stop input / quit):
>> rlcdc tookx kdvfw icgxz osrkd zzokf mnsyu ulcfs yulrl cdctc okuki mvmfa vokqq gwdst cfnco kdfwi
    sygrl cdctc okxkd vfwic gxkdt sgydu mokgw amyik dzncx socbs xxkdr mocls yicim dvnok dzkdz yaulc
    ocmos xctco wxydc omgkf ccumd vciac bkmgg wrlcd etcof wlwas izcui yblmd yaaco lmdvs xfcuI mukuocpyko cimiU osdzf
    somga okdbk agcus aocto dufcx osfvc gknco mucgw iuca kdzkd usulc iuocc umdvfcuIsv kbmgg whdsb hkdza
    csagc ilmui sxxul cdkm bsydu kulz lukfc uszcu usicm miiss dmikb md >> >> >> >>

>> lq
Enter the key (1-3 for default keys, `q` to quit):
>> 3
Encrypted message: rlcdc tookx kdvfw icgxz osrkd zzokf mnsyu ulcfs yulrl cdctc okuki mvmfa vokqq gwdst cfnco kdfwisygrl
    cdctc okxkd vfwic gxkdt sgydu mokgw amyik dzncx socbs xxkdr mocls yicim dvnok dzkdz yaulcocos xctco
    wxydc omgkf ccumd vciac bkmgg wrlcd etcof wlwas izcui yblmd yaaco lmdvs xfcuI mukuocpyko cimiU osdzf
    somga okdbk agcus aocto dufcx osfvc gknco mucgw iuca kdzkd usulc iuocc umdvfcuIsv kbmgg whdsb hkdza
    csagc ilmui sxxul cdkm bsydu kulz lukfc uszcu usicm miiss dmikb md
Decrypted message: whenever if in d myself growing grim about them out h whenever it is adam p
    drizzly november in my soul whenever if in d myself involuntarily pausing before coffin warehouses and
    bringing up there a r of every funeral i meet andes pe c i ally whenever
    my hypos gets uc ha n upper hand of meth at it requires as t ron
    gm oral principle top rev en t me from deliberately stepping into the street and methodically
    knocking peoples hats off then i account it high timet o get to sea ass o
    on as i can
    - Alphabet key: mnbvcxzlkjhgfdsapoiuytrewq
```