Lab1 Report

Problem 1.c

K=6, “Get me a vanilla ice cream, make it a double”

```
»»» ./a.out e
Input plain text: Get me a vanilla ice cream, make it a double
Input key (an interger from 1 to 25): 6
Cipher Text: Mkz sk g bgtorrg oik ixkgs, sgqk oz g juahrk
```

K=15, “I don't much care for Leonard Cohen.”

```
»»» ./a.out e
Input plain text: I don't much care for Leonard Cohen
Input key (an interger from 1 to 25): 15
Cipher Text: X sdc'i bjrw rpgt udg Atdcpgs Rdwtc
```

K=16, “I like root beer floats.”

```
»»» ./a.out e
Input plain text: I like root beer floats.
Input key (an interger from 1 to 25): 16
Cipher Text: Y byau heej ruuh vbeqji.
```

Problem 1.d

k = 12 ciphertext = 'nduzs ftq buzq oazqe.'

```
»»» ./a.out d
Input cipher text: nduzs ftq buzq oazqe.
Input key (an interger from 1 to 25): 12
Decrypted Text: bring the pine cones.
```

k = 3 ciphertext = "fdhvdu qhhgv wr orvh zhljkw."

```
»»» ./a.out d
Input cipher text: fdhvdu qhhgv wr orvh zhljkw.
Input key (an interger from 1 to 25): 3
Decrypted Text: caesar needs to lose weight.
```

k = 20 ciphertext = "ufgihxm uly numnys."

```
»»» ./a.out d
Input cipher text: ufgihxm uly numnys.
Input key (an interger from 1 to 25): 20
Decrypted Text: almonds are tastey.
```

Problem 1.e

ciphertext='gryy gurz gb tb gb nzoebfr puncry.', keyword=chapel

```
»»» ./a.out
Input cipher text: gryy gurz gb tb gb nzoebfr puncry.
Input keyword: chapel
Key 13: tell them to go to ambrose chapel.
```

ciphertext = 'wziv kyv jyfk nyve kyv tpdsrcj tirjy.' keyword = 'cymbal'

```
»»» ./a.out
Input cipher text: wziv kyv jyfk nyve kyv tpdsrcj tirjy.
Input keyword: cymbal
Key 17: fire the shot when the cymbals crash.
```

ciphertext = 'baeeq klwosjl osk s esf ozg cfwo lgg emuz.' no keyword

```
»»» ./a.out
Input cipher text: baeeq klwosjl osk s esf ozg cfwo lgg emuz.
Input keyword:
Key 0: baeeq klwosjl osk s esf ozg cfwo lgg emuz.
Key 1: azddp jkvnrik nrj r dre nyf bevn kff dlty.
Key 2: zycco ijumqhj mqi q cqd mxe adum jee cksx.
Key 3: yxbbn hitlpgi lph p bpc lwd zctl idd bjrw.
Key 4: xwaam ghskofh kog o aob kvc ybsk hcc aiqv.
Key 5: wvzzl fgrjneg jnf n zna jub xarj gbb zhpu.
Key 6: vuyyk efqimdf ime m ymz ita wzqi faa ygot.
Key 7: utxxj dephlce hld l xly hsz vyph ezz xfns.
Key 8: tswwi cdogkbd gkc k wkx gry uxog dyy wemr.
Key 9: srvvh bcnfjac fjb j vjw fqx twnf cxx vdlq.
Key 10: rquug abmeizb eia i uiv epw svme bww uckp.
Key 11: qpttf zaldhya dhz h thu dov ruld avv tbjo.
Key 12: posse yzkcgxz cgy g sgt cnu qtkc zuu sain.
Key 13: onrrd xyjbfwy bfx f rfs bmt psjb ytt rzhm.
Key 14: nmqqc wxiaevx aew e qer als oria xss qygl.
Key 15: mlppb vwhzduw zdv d pdq zkr nqhz wrr pxfk.
Key 16: lkooa uvgyctv ycu c ocp yjq mpgy vqq owej.
Key 17: kjnnz tufxbsu xbt b nbo xip lofx upp nvdi.
Key 18: jimmy stewart was a man who knew too much.
Key 19: ihllx rsdvzqs vzr z lzm vgn jmdv snn ltbg.
Key 20: hgkkw qrcuypr uyq y kyl ufm ilcu rmm ksaf.
Key 21: gfjjv pqbtxoq txp x jxk tel hkbt qll jrze.
Key 22: feiiu opaswnp swo w iwj sdk gjas pkk iqyd.
Key 23: edhht nozrvmo rvn v hvi rcj fizr ojj hpxc.
Key 24: dcggs mnyquln qum u guh qbi ehyq nii gowb.
Key 25: cbffr lmxptkm ptl t ftg pah dgxp mhh fnva.
```

Problem 2.1

All process is written in hands out pdf. So I red it and just did it. Also, I take care of using most common combinations such as letter, trigrams, doubles.

Problem 2.2

The key is ‘bgepsonm_lk_ihy_at_uwfrdvc’

Problem 3

Results:

```
»»» ./a.out dwa_enl__gypurbsvpho_itcqf
Potential Plaintext: four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in libert
y, and dedicated to the proposition that all pen are created equal
```

Plaintext: four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in liberty, and dedicated to the proposition that all pen are created equal.

Ciphertext:

Process:

a. You can see a letter is ‘C’. Which means the plain letter is ‘a’ or ‘i(I)’. So I chose ‘c’ -> ‘a’.
b. You can see three letters are ‘aGG’. So I think ‘aGG’ can translate to ‘all’, so I chose ‘g’ -> ‘l’.
c. The most common cipher letter is ‘e’ in this cipher text using the listing frequencies up program. So I guess ‘e’ -> ‘e’(No change).
d. You can see a word is ‘eYMall’. I guess it is ‘equal’. So ‘y’ -> ‘q’, ‘m’ -> ‘u’.
e. You can see a word is ‘aFA’. I guess it is ‘and’. So ‘f’ -> ‘n’, ‘a’ -> ‘d’.
f. You can see a word is ‘neB’. I guess it is ‘new’. So ‘b’ -> ‘w’.
g. You can see a lot of ‘P’ at the last letter. So I guess ‘p’ -> ‘s’.
h. You can see some letters are ‘Vn’,’WSe’. So I guess it is ‘in’ and ‘the’. So ‘v’ -> ‘i’, ‘w’ -> ‘t’, ‘s’ -> ‘h’.
i. You can see a letter is ‘tT’. So I guess ‘t’ -> ‘o’ . (to choose ‘to’).
j. You can see a word is ‘XTntinent’. So I guess ‘x’ -> ‘c’.
k. You can see a word is ‘liOertK’. So I guess ‘o’ -> ‘b’, ‘k’ -> ‘y’ .
l. You can see a letter is ‘Zour’, ‘seQen’, ‘aNe’. So I guess ‘z’ -> ‘f’, ‘q’ -> ‘v’, ‘n’ -> ‘r’
m. You can see a letter is ‘RroRsition’, So ‘r’ -> ‘p’.