

EE393

QUIZ2 – 02.11.20

In cryptography, a Caesar cipher is a very simple encryption technique in which each letter in the plain text is replaced by a letter some fixed number of positions down the alphabet. For example, with a shift of 3, the letter 'A' would be replaced by 'D', 'B' would become 'E', and so on. The method is named after Julius Caesar, who used it to communicate with his generals.

ROT-13 ("rotate by 13 places") is a widely used example of a Caesar cipher where the shift is 13. In Python, the key for ROT-13 may be represented by means of the following dictionary:

```
myKey = {'a':'n','b':'o','c':'p','d':'q','e':'r','f':'s',
        'g':'t','h':'u','i':'v','j':'w','k':'x','l':'y',
        'm':'z','n':'a','o':'b','p':'c','q':'d','r':'e',
        's':'f','t':'g','u':'h','v':'i','w':'j','x':'k',
        'y':'l','z':'m','A':'N','B':'O','C':'P','D':'Q',
        'E':'R','F':'S','G':'T','H':'U','I':'V','J':'W',
        'K':'X','L':'Y','M':'Z','N':'A','O':'B','P':'C',
        'Q':'D','R':'E','S':'F','T':'G','U':'H','V':'I',
        'W':'J','X':'K','Y':'L','Z':'M'
}
```

Write a Python program that inputs

- a secret message **m** from the console
- processing type, **tt**, (1 for encode, 2 for decode)

infinitely from the user. That is, you must create a strategy to stop the execution of your program. You may assume that input contains only english-letters are encoded or decoded. The rest of the message will remain unchanged.

The output of your program will be as follows:

- Print the encoded and decoded version of the string to the screen
- Append encoded and decoded version of the string to a text file (**secret.txt**).

IMPORTANT!!! Your program must use the given dictionary, **myKey**. Assume that **secret.txt** is empty at the beginning of a run.

To test your program, use <https://www.browserling.com/tools/rot13> to create some sample inputs for encoding and decoding.

Submit your python code through LMS on or before the due time. Pay some attention to commenting and good programming style while writing your code.

Penalties :

- late submission, cheating and non-working code: up to -100pts
- improper commenting : up to -20pts
- improper coding style: up to -10pts (like, variable names and indents)
- program does not work for some-all of the sample input file : up to -100pts
- no secret.txt is produced : up to -50pts