Cryptography: Script to encrypt and Decrypt messages

####sample script to encrypt and decrypt

#ask for user input

```
a=input("please enter your top secret message: \n")

b=str(input("last 4 digits of your phone number:\nn "))
```

#validate if phone number entered is 4 digits and extract one number to be used for list rotation stored under variable "d"

```
if  len(b)!=4:

   print("please input only last 4 digits")

else:

   c=b[1:3:3]

   d=int(c)
```

#split input received for message encrypted into a list of individual items

```
g=[h for h in a]
```

#rotate the list by moving items x no of spaces. the value of x is the value stored in variable "d"

```
f= (g[len(g)-d:len(g)]+ g[0:len(g)-d])
```

#master reference list

```
master={'A':'Jkbj','B': 'kbsi',
'C':'hnwf','D':'j’ix','E':'zfcx','F':'zasx','G':'degt','H':'u6ku','I':',j,a','J':'rfgu','K':'iln/','L':'jklj','M':'io89','N':'7y6g'
,'O':'uj/;','P':'Kagg','Q':'yUJJ','R':'YI8I','S':'hyui','T':'uuKU','U':'Uujh','V':'yg^y','W':'tffd','X':'dgy&','Y':'8okk','
Z':'&*nj',"a":"gtfd","b":"$32g", "c":"fgsd",
"d":"8&89","e":"cfjl","f":"0h^g","g":"dh#7","h":")J(5","i":"hadj","
":"uhty","j":"nb6d","k":"!8f#","l":"4jaj","m":"tg4p","n":"&6gh","o":"^98$","p":"bt98","q":"b438","r":"89
h6","s":"oijh","t":"87#t","u":"NIHT","v":"&15b","w":"Stg^","x":"87H6","y":"gdfh","z":"8&%^","0":"ikgt",
"1":"fgty","2":"ThGt","3":"&^hj","4":"POlk","5":"mnjh","6":"^&%j","7":"mijh","8":"789j","9":"yh{o","!":"
kjnb","@":"trFb","#":"nilo","$":"Pl*&","%":"5875","^":"kjhy","&":"tr46","*":"yt0&","(":"JH>k",")":"mnh7
",":":"freh",";":"bhyt","'":"plki",'"':"7hgt","/":"Ft5r","?":"po8s",",":"7*9^",".":"yh4&"}
```

```
print("Your encrypted message is:\n")
#checking if items in list "f" match with values in master and printing the encrypted message
for i in f:
   if i in master:
      print( master[i],end="")
print("\n")
print("\n")
print("\n")

#Requesting input of encrypted message to be decrypted (received from the above part of code)
j=input("please enter the message you want to decrypt: \n " )
print("\n")
print("\n")

#k is the interval value by which the encrypted string will be split. In this case we use 4 as len of values in dictionary is equal to 4.
k=4

#the list after splitting is stored under variable"m"
m=[j[l:l+k] for l in range(0, len(j), k)]

#rotating the list so it represents the original order as stored in "g"
s= (m[-(len(m)-d):len(m)]+ m[0:-(len(m)- d)])

#interchanging keys and values on "master" dictionary
```

```
rev = dict((v,k) for k,v in master.items())

print("your decrypted message is: \n")

#checking if items in the list "s" match with values on the reversed dictionary "rev" and printing decrypted message

for n in s:

    if n in rev:

        print(rev[n], end="")
```

Output Screenshots:

```
PS C:\Users\antho> & C:/Users/antho/AppData/Local/Programs/Python/Python37/python.exe "c:/Users/antho/OneDrive/Documents/Python/Python Scripts/crypto.py"
please enter your top secret message:
My Name is Anthony and this script is used to encryot a message without importing any modules and functions in Python. It is a simple script that uses input, string slicing, lists, f
or loops , if statements, Dictionary and print functions. After learning about security, I wanted to try and build my own script to encrypt and decrypt and I believe this works as te
sted. I am open to feedback and suggestions.
last 4 diguts of your phone number:
4785
```

```
Your encrypted message is:

oijh87#thadj^98$&6ghoijhyh4&io89gdfhuhty7y6ggtfdtg4pcfjluhtyhadjoijhuhtyJkbj&6gh87#t)J(5^98$&6ghgdfhuhtygtfd&6gh8&89uhty87#t)J(5hadjoijhuhtyoijhfgsd89h6hadjbt9887#tuhtyhadjoijhuhtyNI
HToijhcfjl8&89uhty87#t^98$uhtycfjl&6ghfgsd89h6gdfh^98$87#tuhtygtfduhtytg4pcfjloijhoijhgtfddh#7cfjluhtyStg^hadj87#t)J(5^98$NIHT87#tuhtyhadjtg4pbt98^98$89h687#thadj&6ghdh#7uhtygtfd&6gh
gdfhuhtytg4p^98$8&89NIHT4jajcfjloijhuhtygtfd&6gh8&89uhty0h^gNIHT&6ghfgsd87#thadj^98$&6ghoijhuhtyhadj&6ghuhtyKagggdfh87#t)J(5^98$&6ghyh4&uhty,j,a87#tuhtyhadjoijhuhtygtfduhtyoijhhadjtg
4pbt984jajcfjluhtyoijhfgsd89h6hadjbt9887#tuhty87#t)J(5gtfd87#tuhtyNIHToijhcfjloijhuhtyhadj&6ghbt98NIHT87#t7*9^uhtyoijh87#t89h6hadj&6ghdh#7uhtyoijh4jajhadjfgsdhadj&6ghdh#77*9^uhty4jaj
hadjoijh87#toijh7*9^uhty0h^g^98$89h6uhty4jaj^98$^98$bt98oijhuhty7*9^uhtyhadj0h^guhtyoijh87#tgtfd87#tcfjltg4pcfjl&6gh87#toijh7*9^uhtyj'ixhadjfgsd87#thadj^98$&6ghgtfd89h6gdfhuhtygtfd&6
gh8&89uhtybt9889h6hadj&6gh87#tuhty0h^gNIHT&6ghfgsd87#thadj^98$&6ghoijhyh4&uhtyJkbj0h^g87#tcfjl89h6uhty4jajcfjlgtfd89h6&6ghhadj&6ghdh#7uhtygtfd$32g^98$NIHT87#tuhtyoijhcfjlfgsdNIHT89h6
hadj87#tgdfh7*9^uhty,j,auhtyStg^gtfd&6gh87#tcfjl8&89uhty87#t^98$uhty87#t89h6gdfhuhtygtfd&6gh8&89uhty$32gNIHThadj4jaj8&89uhtytg4pgdfhuhty^98$Stg^&6ghuhtyoijhfgsd89h6hadjbt9887#tuhty87
#t^98$uhtycfjl&6ghfgsd89h6gdfhbt9887#tuhtygtfd&6gh8&89uhty8&89cfjlfgsd89h6gdfhbt9887#tuhtygtfd&6gh8&89uhty,j,auhty$32gcfjl4jajhadjcfjl&15bcfjluhty87#t)J(5hadjoijhuhtyStg^^98$89h6!8f#
oijhuhtygtfdoijhuhty87#tcfjloijh87#tcfjl8&89yh4&uhty,j,auhtygtfdtg4puhty^98$bt98cfjl&6ghuhty87#t^98$uhty0h^gcfjlcfjl8&89$32ggtfdfgsd!8f#uhtygtfd&6gh8&89uhtyoijhNIHTdh#7dh#7cfjl
```

```
please enter the message you want to decrypt:
 oijh87#thadj^98$&6ghoijhyh4&io89gdfhuhty7y6ggtfdtg4pcfjluhtyhadjoijhuhtyJkbj&6gh87#t)J(5^98$&6ghgdfhuhtygtfd&6gh8&89uhty87#t)J(5hadjoijhuhtyoijhfgsd89h6hadjbt9887#tuhtyhadjoijhuhtyN
IHToijhcfjl8&89uhty87#t^98$uhtycfjl&6ghfgsd89h6gdfh^98$87#tuhtygtfduhtytg4pcfjloijhoijhgtfddh#7cfjluhtyStg^hadj87#t)J(5^98$NIHT87#tuhtyhadjtg4pbt98^98$89h687#thadj&6ghdh#7uhtygtfd&6g
hgdfhuhtytg4p^98$8&89NIHT4jajcfjloijhuhtygtfd&6gh8&89uhty0h^gNIHT&6ghfgsd87#thadj^98$&6ghoijhuhtyhadj&6ghuhtyKagggdfh87#t)J(5^98$&6ghyh4&uhty,j,a87#tuhtyhadjoijhuhtygtfduhtyoijhhadjt
g4pbt984jajcfjluhtyoijhfgsd89h6hadjbt9887#tuhty87#t)J(5gtfd87#tuhtyNIHToijhcfjloijhuhtyhadj&6ghbt98NIHT87#t7*9^uhtyoijh87#t89h6hadj&6ghdh#7uhtyoijh4jajhadjfgsdhadj&6ghdh#77*9^uhty4ja
jhadjoijh87#toijh7*9^uhty0h^g^98$89h6uhty4jaj^98$^98$bt98oijhuhty7*9^uhtyhadj0h^guhtyoijh87#tgtfd87#tcfjltg4pcfjl&6gh87#toijh7*9^uhtyj'ixhadjfgsd87#thadj^98$&6ghgtfd89h6gdfhuhtygtfd&
6gh8&89uhtybt9889h6hadj&6gh87#tuhty0h^gNIHT&6ghfgsd87#thadj^98$&6ghoijhyh4&uhtyJkbj0h^g87#tcfjl89h6uhty4jajcfjlgtfd89h6&6ghhadj&6ghdh#7uhtygtfd$32g^98$NIHT87#tuhtyoijhcfjlfgsdNIHT89h
6hadj87#tgdfh7*9^uhty,j,auhtyStg^gtfd&6gh87#tcfjl8&89uhty87#t^98$uhty87#t89h6gdfhuhtygtfd&6gh8&89uhty$32gNIHThadj4jaj8&89uhtytg4pgdfhuhty^98$Stg^&6ghuhtyoijhfgsd89h6hadjbt9887#tuhty8
7#t^98$uhtycfjl&6ghfgsd89h6gdfhbt9887#tuhtygtfd&6gh8&89uhty8&89cfjlfgsd89h6gdfhbt9887#tuhtygtfd&6gh8&89uhty,j,auhty$32gcfjl4jajhadjcfjl&15bcfjluhty87#t)J(5hadjoijhuhtyStg^^98$89h6!8f
#oijhuhtygtfdoijhuhty87#tcfjloijh87#tcfjl8&89yh4&uhty,j,auhtygtfdtg4puhty^98$bt98cfjl&6ghuhty87#t^98$uhty0h^gcfjlcfjl8&89$32ggtfdfgsd!8f#uhtygtfd&6gh8&89uhtyoijhNIHTdh#7dh#7cfjl
```

```
your decrypted message is :

My Name is Anthony and this script is used to encryot a message without importing any modules and functions in Python. It is a simple script that uses input, string slicing, lists, f
or loops , if statements, Dictionary and print functions. After learning about security, I wanted to try and build my own script to encrypt and decrypt and I believe this works as te
sted. I am open to feedback and suggestions.
```