```python
#Welcome to my computer programming project
#SkillsUSA CA
#Region 4 Competition 2023
#Computer Programming
#Contestant ID: 4585

import time
import csv

#tells you what the error is when you put over 4 digits
def numType():
    global num
    num = input()
    count = len(num)
    if (count != 4):
        print ('Only 4 digits!')
        numType()
    else:
        settingMain()
        return(num)
#this is the encryption itself with sum+7 modulo 10
def encryption(num):


    a = num[0]
    b = num[1]
    c = num[2]
    d = num[3]


    a = int(a)+7
    b = int(b)+7
    c = int(c)+7
    d = int(d)+7

    a = a % 10
    b = b % 10
    c = c % 10
    d = d % 10


    a = str(a)
    b = str(b)
    c = str(c)
    d = str(d)

    encryptedNumber = c+d+a+b

    file = open('encryptedFile.txt', 'w') #this is the .txt file that will hold
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        the encrypted number of 4 digits. Check for encrypted number
    file.write(str(encryptedNumber))
    file.close()


    print('Encryption has concluded and has been stored')
    settingMain()

    return()




#this is the setting for the encryption and decryption. After you encrypt using 'W', this will give the user the option to decrypt or encrypt that encrypted number
def settingMain():
    print('If you want to encrypt this number press: R. If you want to dycrypt, press D. If you want to delete file, press T ')
    encryptER = input()
    if (encryptER == 'E'):
        numType()
    elif (encryptER == 'R'):
        print('Loading Encryption...')
        encryption(num)
        return()
    elif (encryptER == 'T'):
        print ('Deleting File...')
        deleteFile()
        return()
    elif (encryptER == 'D'):
        print('Loading Decryption...')
        time.sleep(1)
        decryption()
        return()

#this will be the frist thing that pops up, it will give you the option to encrypt
def settingStart():
    print("Type W to Encrypt, L to read file, T to delete file")
    encryptER = input()
    if (encryptER == 'W'):
        print ("Enter a pin with 4 digits")
        numType()
        return()

    elif (encryptER == "T"):
        deleteFile()
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        return()
    elif(encryptER == "Z"):
        exit()
    else:
        print('Must be W or L or T')
        time.sleep(0.5)
        settingStart()
#the commands here are to delete/remove the file
def deleteFile():
    print('Do you want to clear the file? Y or N')
    encryptER = input()
    if(encryptER == "Y"):
        print ('Are you positive?')
        if (encryptER == 'Y'):
            print("Deleting...")
            file = open('profileEncrypt.txt', 'r+')
            file.truncate()
            file.close()
            print("ERADICATED")
            settingStart()
            return()
    if (encryptER == 'N'):
        settingStart()
        return()
#this is the dycryption itself and all the math and logic to decrypt the
  encrypted number
def decryption():
    file = open('encryptedFile.txt', 'r')
    num = file.read()
    num = str (num)
    print (num)
    i = num[0]
    j = num[1]
    k = num[2]
    l = num[3]
    print(i)
    i = int(i)-7
    j = int(j)-7
    k = int(k)-7
    l = int(l)-7
    print(i)
    i = i % 10
    j = j % 10
    k = k % 10
    l = l % 10
    print(i)


    i = str(i)
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    j = str(j)
    k = str(k)
    l = str(l)
    print (i)

    decryptedNumber = k+l+i+j
    print(decryptedNumber)
    file.close()
    file = open('decryptedFile.txt', 'w') #this is the .txt file that is will
      be stored in. Check for decyrpted number
    file.write(str(decryptedNumber))
    file.close()


    print('Decryption has been concluded')


    return()



settingStart()


exit()







 #first encryption
 #first dycryption
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