CSIT110 - Lab 2

File name: YourName_Lab_1.py

Give a non-negative integer n less than 10000, we can say n is a “4-digit” integer. What happens if n is a 3-digit or 2-digit or even a single digit? Well, you can assume that some leading zero(s) are implicitly defined for these integers, for example, if n = 78, implicitly n = 0078.

In the study of Cryptography, may be one of your future subjects, we use the terms encryption and decryption. Here is how I encrypt a 4-digits integer:

- Add 7 to each of the digits and modulus the sum by 10
- Swap the 1st and the 3rd digits; the 2nd and the 4th digits
- **Form a new integer abcd where a is the 1st digit, b the 2nd digit and etc. Some of the digits may be zero(s).**

Note that you SHOULD DO the actual swap of digits, NOT reordering via hard coding.

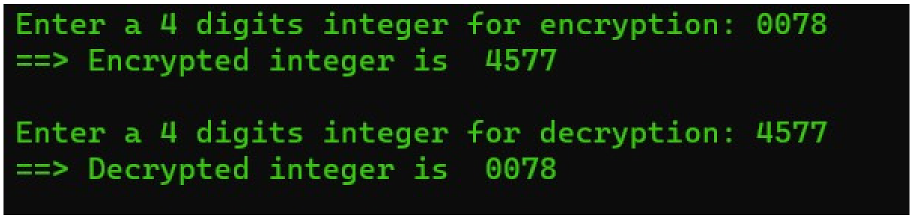
In printing of result, you should print out the integer; not digit by digit

A more challenging design is to treat n is to be an integer and NOT a string

To decrypt (recover back) the encrypted integer:

- Add 3 to each of the digits and modulus the sum by 10
- As above for the swapping
- As above in forming the new integer.

Write a Python program to implement the encryption and the decryption. The following shows the interactions and the displays:



```
Enter a 4 digits integer for encryption: 0078
==> Encrypted integer is  4577

Enter a 4 digits integer for decryption: 4577
==> Decrypted integer is  0078
```

Don’t forget to include this statement in your program

input (“Press enter to terminate”)

Save your program in a file name **YourName_Lab_2.py** and upload this Python file to Moodle