

CSIT111 - Lab 2
File name: YourName_Lab_2.java

If you ask me what is my date of birth? I say, my date of birth is 87-75-2886. Huh!!! What is that? If you sit down peacefully, you probably will say 87 is the day, 75 is the month, and 2886 definitely is the year. Question arises, how to relate these integers to the day, the month and the year?

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:

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

To decrypt (recover back) the encrypted integer:

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

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

```
Enter 4 digits integer to be encrypted: 9835
Encrypted integer is 0265

Enter 4 digits integer to be decrypted: 0265
Decrypted integer is 9835
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During the demo, tell me what my date of birth is and assume that I didn't tell lie? ☺