Question:

(Enforcing Privacy with Cryptography) The explosive growth of Internet communications and data storage on Internet-connected computers has greatly increased privacy concerns. The field of cryptography is concerned with coding data to make it difficult for unauthorized users to read. A company that wants to send data over the Internet has asked you to write a program that will encrypt it so that it may be transmitted more securely. Create following classes:

Number: All the data is transmitted as four-digit integers. Your application should read a four-digit integer entered by the user.

Encryption: Encrypt it as follows: Replace each digit with the result of adding 4 to the digit and getting the remainder after dividing the new value by 10. Then swap the first digit with the third, and swap the second digit with the fourth. Then print the encrypted integer. I.e. 1234 is encrypted to 7856.

Write a C++ program that defines the composition relationship between these classes.