

A company wants to transmit sensitive data over a network, but they are concerned that the information might be compromised whilst in transit. **All of their data is transmitted as four-digit integers.**

You must write a client/server application which allows clients to send (encrypted) data to a multithreaded server. The server will then decrypt the data, display it and write it to a text file.

The client application should (continually) prompt the user to enter data (as a four digit number) and then encrypt it as follows. You must add 7 to each individual digit and then mod it by 10. Then swap the first digit with the third and then swap the second digit with the fourth digit. For example 8524 becomes 9152, 4752 becomes 2914.

On receipt of an encrypted number, the server application will decrypt the number (by reversing the encryption process), display it to the user and then write the decrypted number to a file.