

Programming Exercise 10.7

NSA Decoder, v.1.0

Purpose. Practice using a text file as input, and writing output to a console screen.


Pretend that you have been hired by the National Security Agency (NSA) to write a program that unscrambles the text in a text file, and outputs the original file to the console screen. Someone else will be hired to write a program to scramble files for your program to unscramble. In this way, the NSA can put secret messages into text files, scramble them, send them as attachments to email, and unscramble them with your program. The recipients of the email messages will use your decoder program to view the original message.

You already performed a “proof of concept” that used console I/O in Exercise 9.3. This version adapts that to use text file I/O.

Requirements. Write `nsaDecoder1.cpp` based on Exercise 9.3’s `nsaDecoder0.cpp`. Open and decode the `secret.txt` file using the decoding algorithm from `nsaDecoder0.cpp`. Read the text from the input file and decode it a line at a time, and write each line of decoded text to the console screen after it’s encoded.

Algorithm.

```
open secret.txt for input
start end-of-file loop
  read a line from the input file
  encode the line
  write the line to the console screen
loop ends here
close input file
```



Program I/O. Input: `secret.txt`. Output: decoded contents of `secret.txt`