

LAB 2 – CAESAR CIPHER

You will be deciphering a given message. It is encrypted with a Caesar Cipher (https://en.wikipedia.org/wiki/Caesar_cipher) that increases by 2 after every 3 characters (including symbol characters, which are not encoded), starting at key = 5. You should save this message to a file using a text editor. Then, your program will prompt the user for the name of the file, decrypt the message stored in the file, and then write the decrypted message to a new file called solution.txt.

A sample message talking about getting 5 points of extra credit appears below:

```
Htsnyhcdjwlevbah! Pfl zxo afsb dwusb srnsyz!
```

(We may try other sample messages when we test your program.)

HINTS:

- Make sure your key does not exceed 26, the number of letters in the alphabet. Consider using modulo division to help.
- Make sure you "roll" around the alphabet correctly. For example, if the input letter is "D" and the key is currently 5, subtracting 5 from D's code would result in you being 1 before A (64). You should add back the code for the letter Z to roll to the end of the alphabet.
- For JavaScript/TypeScript coders: You can convert letters to their numerical equivalent numbers by using `String.fromCharCode(...)` and `String.charCodeAt(...)`. For example, `String.fromCharCode(65)` produces 'A' and `'A'.charCodeAt(0)` produces 65.
- For coders in other languages: You can do math directly with letters, such as `'D' - 'A'`.