

CMPSC-132: Programming and Computation II
Fall 2018

Lab #4

Due Date: 09/14/2018, 11:59PM

Instructions:

- The work in this lab must be completed alone and must be your own. Do not copy code from online sources. That is considered plagiarism.
- Use the starter code provided on this CANVAS assignment. Do not change the function names or given started code on your script
- The file name must be LAB4.py (incorrect name files will get a -1 point deduction)
- A doctest is provided as an example of code functionality. Getting the same result as the doctest does not guarantee full credit. You are responsible for debugging and testing your code with enough data.
- Each function must return the output (Do not use print in your final submission, otherwise you get a -1 point deduction)
- Do not include test code outside any function in the upload. Printing unwanted or ill-formatted data to output will cause the test cases to fail. Remove all your testing code before uploading your file. Do not include the input() function in your submission.

Goal:

[6 pts] Write the functions *encrypt*(message, key) and *decrypt*(message, key), where *message* is a string and *key* is an integer. Both functions **return** a string that contains *message* encrypted/decrypted using the Caesar cipher method. If a string is not provided as an input for message or an integer is not provided for key, the function must **return** an error message 'Invalid input'

- Functions must encrypt/decrypt both uppercase and lowercase letters
- *decrypt*(message, key) retrieves the original message encrypted by the *encrypt* function if the same key is used
- Numbers and punctuation can remain the same

[4 pts] Write the unit test script to perform your testing for both functions *encrypt* and *decrypt* using the unittest module and prove that they work properly. Remember to be as descriptive as possible and write as many cases as necessary.

Notes:

One of the purposes of unit testing is to provide evidence that everything was tested and it works properly. Feedback will be provided if your code does not work according to the assignment requirements, but no partial credit will be given. You can use <https://cryptii.com/caesar-cipher> to create base cases

Deliverables:

You must submit the following 2 files to the Lab 4 CANVAS assignment before the due date:

- Your code in a file named LAB4.py
- test.py that contains the unit test code

Make sure to include both files in your submission

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