CAIS 117: Intro to Programming with Python

Fall 2023

Homework 06: Encrypt & Decrypt

Homework is DUE before class on the day indicated on the course schedule.

***This is a pair assignment**. You should complete it and submit it with a partner.*

Learning Objectives:

- Write modular code with functions

Part 1 - coding

Your submission will be auto graded for correctness and graded by hand for appropriate commenting, structure, etc. (see rubric below). **For the auto grader, it's important that your input goes in the prescribed order, and your output is formatted exactly like the examples below.** Remember to check the results of the auto grader tests to help debug your program.

For this assignment, you'll write 3 functions:

- encrypt(…) This function will:
  - Take in a string containing a message, and string identifying a cipher
  - Encrypt the message using the cipher (explained below)
  - Return the encrypted message
- decrypt(…) This function will:
  - Take in a string containing an encrypted message, and string identifying a cipher
  - Decrypt the message using the cipher (explained below)
  - Return the decrypted message
- main(…) This function will:
  - Ask the user to enter a message—"Enter a message: "
  - Ask the user to choose an encryption—" Pig Latin or Reverse? "
  - Call encrypt(…) according to what the user inputs, and print the results
  - Call decrypt(…) on the encrypted message and print the original message

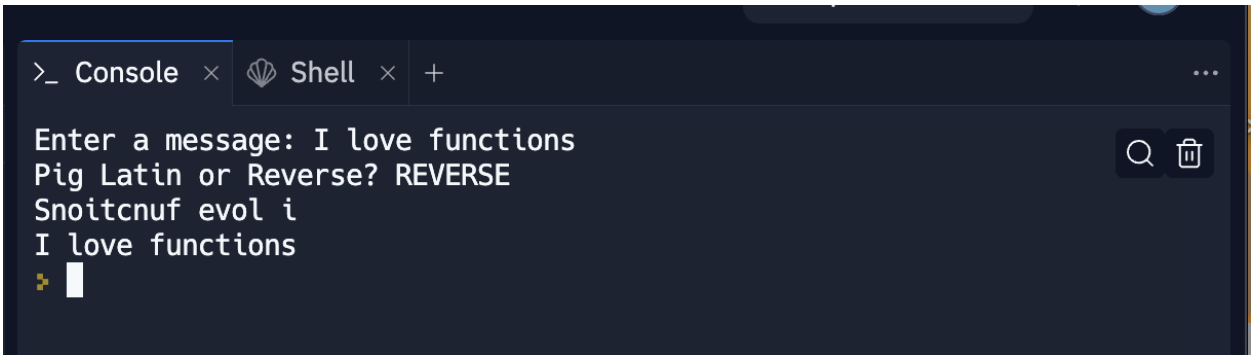
You can assume all input messages will have no punctuation, and you should return all messages with proper casing (first letter of first word uppercased).

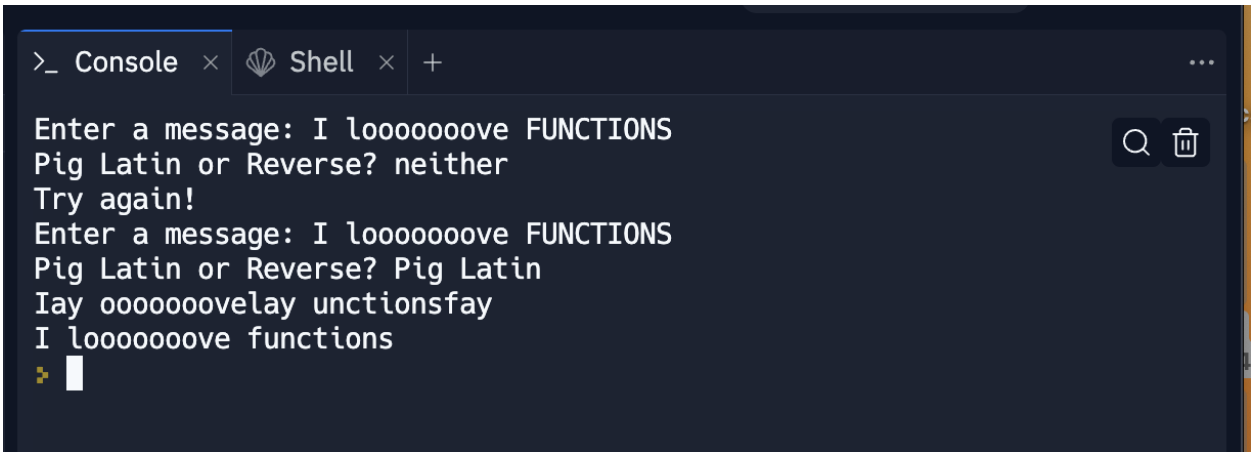
If the user enters any variation of capitalization on Pig Latin or Reverse your program should still run. If the user enters any thing else, print “Try again!” and return to the original prompts.

Pig Latin Cipher - This cipher follows one rule: For each word, move the first letter to the end and add “ay”.

Reverse Cipher - This cipher follows one rule: reverse the input string.

Examples:





Reflection

In a word document please answer the following questions with your partner:

a) What part of this assignment was trickiest for you and your partner?
b) How did you tackle that tricky part?
c) What did each partner contribute to the final product?

Submission

Submit your assignment on repl.it (as a group). In addition, save your reflection as a PDF and submit it on PLATO (as a group).

Rubric

Function		
	Passes auto grader tests	0 - 10
Commenting		
	Appropriate header with names, date, program description	0 - 2
	Code is well documented, but not over documented	0 - 2
Structure		
	Problem is broken into reasonable chunks	0 - 2
	Variable names are descriptive	0 - 2
	Functions are used appropriately	0 - 2
Reflection		
	All questions answered thoughtfully	0 - 5