Homework due Jul 13, 2021 22:00 +06

Exercise 1

0/1 point (graded)

In Exercise 1, we will define the alphabet used in the cipher.

The sample code imports the **string** library has been imported. Create a string called **alphabet** consisting of the space character (''') followed by (concatenated with) the lowercase letters. Note that we're only using the lowercase letters in this exercise.

Sample code:

```
import string
# write your code here!

What is the correct way to create the alphabet string using the string
library?

alphabet = string.ascii_lowercase

alphabet = string.ascii_lowercase + " "

alphabet = " " + string.ascii_letters

alphabet = " " + string.ascii_lowercase

alphabet = string.ascii_lowercase
```

Explanation

The following code will create the string:

alphabet = " " + string.ascii_lowercase

Submit

You have used 2 of 2 attempts

Exercise 2

1/1 point (graded)

In Exercise 2, we will define a dictionary that specifies the index of each character in alphabet.

Note that alphabet is as defined in Exercise 1. Create a dictionary with keys consisting of the characters in alphabet and values consisting of the numbers from 0 to 26. Store this as positions.

What is the value of the key n in the positions dictionary?

14 *****

Submit You have used 1 of 5 attempts

✓ Correct (1/1 point)

Exercise 3

1/1 point (graded)

In Exercise 3, we will encode a message with a Caesar cipher.

Note that alphabet and positions are as defined in Exercises 1 and 2. Use positions to create an encoded message based on message where each character in message has been shifted forward by 1 position, as defined by

positions.

Note that you can ensure the result remains within 0-26 using result % 27.

Store this as encoded_message.

Use this code to get started:

message = "hi my name is caesar"
write your code here!

What is encoded_message?

Do not include any quotes in your answer.

ijanzaobnfajtadbftbs





You have used 1 of 10 attempts

✓ Correct (1/1 point)

Exercise 4

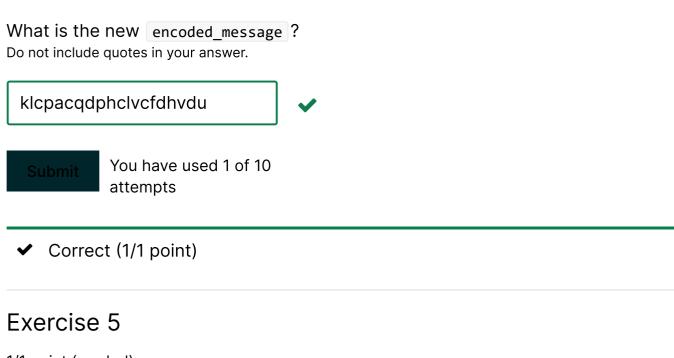
1/1 point (graded)

In this Exercise 4, we will define a function that encodes a message with any given encryption key.

Use alphabet, position, and message as defined in Exercises 1 through 3. Define a function encoding that takes a message as input as well as an int encryption key key to encode a message with the Caesar cipher by shifting each letter in message by key positions.

Your function should return a string consisting of these encoded letters.

Use encoding to encode message using key = 3 and save the result as encoded_message. Print encoded_message.



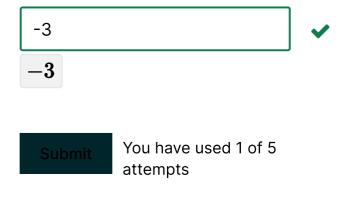
1/1 point (graded)

In Exercise 5, we will decode an encoded message.

Instructions

- Use encoding to decode encoded_message.
- Store your encoded message as decoded_message.
- Print decoded_message. Does this recover your original message?

What key can be used to decode the message and recover the original message shifting backwards?



✓ Correct (1/1 point)