

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_letters + " "`

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



Submit

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` .

What is the new `encoded_message` ?

Do not include quotes in your answer.

klcpacqdpchlvcfdhvdv



Submit

You have used 1 of 10 attempts

✓ Correct (1/1 point)

Exercise 5

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?

-3



-3

Submit

You have used 1 of 5 attempts

✓ Correct (1/1 point)
