Python Programming
Exercise 5: Anonymous functions, List comprehensions, Text analysis

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Abstract

This exercise will focus on working with functional programming and text analysis in Python.

Task 1: Working with functions

- Write a list comprehension that takes the following list and returns the length of every item. mylist = ['cat', 'dog', 'mouse', 'fish', 'tiger', 'cow', 'crow', 'dinosaur', 'fly']

- Modify the list comprehension so that it only works for items beginning with letter "c".

- Modify the code, so that it returns a dictionary with the animal as the key and the length as the value.

- Write a lambda function that sums up the length of two provided strings.

- Write a lambda function that gets the length. Map it on the animal list → mylist

- Download the following book https://www.gutenberg.org/files/2701/2701-0.txt and save it as mobydick.txt in your working directory.

- Read the file with python and print the text.

- Can you find something in the text that deserves some cleaning? Example:

  `\n`

- How often do the words whale, captain, and harpoon occur?

- Is there a difference when using capital letters, i.e., Whale, Captain, Harpoon?

- Convert the whole text to either lower or upper case and count again.

- Find the following text and remove everything before it.

  ```
  CHAPTER 1. Loomings.  Call me Ishmael.
  ```

- Now find the following text and remove everything after it.

  ```
  CHAPTER 2. The Carpet-Bag.
  ```

- Can you do it in a single run?

- Export the new text to a file called mobydick_ch1.txt

- Reload the file and check it.