Assignment 4: Lists

In this assignment, you will explore the concept of lists in Python. Lists are a versatile and fundamental data structure that allows you to store and manipulate collections of elements. Through a series of tasks and exercises, you will gain a solid understanding of list creation, indexing, slicing, and common list operations.

Instructions:

1. Create a list:
    - Define an empty list called `my_list`.
    - Prompt the user to enter five numbers, one at a time, and append each number to `my_list`.
    - Print `my_list`.
2. Accessing list elements:
    - Print the second element in `my_list`.
    - Print the last element in `my_list`.
    - Print the third to fifth elements in `my_list` using list slicing.
3. List operations:
    - Create another list called `new_list` with the elements [7, 8, 9, 10].
    - Concatenate `my_list` and `new_list` into a new list called `combined_list`.
    - Print `combined_list`.
4. List methods:
    - Use the `len()` function to print the length of `combined_list`.
    - Append the number 11 to `combined_list`.
    - Sort `combined_list` in ascending order.
    - Print `combined_list`.
5. Counting and removing elements:
    - Count the number of occurrences of the number 7 in `combined_list`.
    - Remove the first occurrence of the number 7 from `combined_list`.
    - Print `combined_list`.
6. List comprehension:
    - Create a new list called `squared_list` using list comprehension. Each element in `squared_list` should be the square of an element from `combined_list`.
    - Print `squared_list`.

Submission Instructions:

1. Create a folder named python_assignment_4
2. Inside that folder add your .py file and a **PDF** with screenshots of your assignment
    a. The PDF should contain screenshots of your code and sample output
3. Submit the python_assignment_3 folder to the Assignment 4 dropbox on moodle
4. You **do not** need to prefix your variables with your student number