Python Week 2 Day 5

1. Concatenation and Conversion:

- Write a function that takes two string inputs and concatenates them. If the resulting string contains only digits, convert it to an integer and return the integer. If not, return the concatenated string as is.

2. String Indexing:

- Write a function that takes a string and an index as inputs and returns the character at that index. Handle cases where the index is out of bounds by returning a message indicating the error.

3. String Length:

- Write a function that takes a list of strings and returns a new list containing the lengths of those strings.

4. Looping Through Strings:

- Write a function that takes a string and prints each character in the string on a new line, along with its index position.

5. Character Counting:

- Write a function that counts the number of occurrences of a specified character in a given string.

6. String Slicing:

- Write a function that takes a string and two indices, and returns the substring contained between those two indices. Handle cases where indices are out of bounds by adjusting them to valid values.

7. String Comparison:

- Write a function that takes two strings and compares them lexicographically. Return a message indicating whether the first string comes before, after, or is equal to the second string.

8. String Methods:

- Write a function that takes a string and returns a dictionary with keys "lowercase", "uppercase", and "titlecase", mapping to the corresponding transformed versions of the string.

9. Search and Replace:

- Write a function that takes three inputs: a string, a search term, and a replacement term. Replace all occurrences of the search term in the string with the replacement term and return the modified string.

10. Whitespace Removal:

- Write a function that takes a string and returns a new string with all leading and trailing whitespace removed. Additionally, replace any sequence of internal whitespace with a single space.