

## Python Puzzles for Practice

### 1. String Manipulation

Write a function `reverse_words(sentence)` that takes a sentence (string) and returns the sentence with the words reversed, but the order of characters in each word unchanged.

Example: `reverse_words('Hello world')` # Expected output: 'world Hello'

### 2. Sum of Numbers in a List

Write a function `sum_of_numbers(lst)` that takes a list of numbers and returns the sum of all the numbers.

Example: `sum_of_numbers([1, 2, 3, 4, 5])` # Expected output: 15

### 3. Unique Elements in a List

Write a function `unique_elements(lst)` that takes a list and returns a list of unique elements, preserving the original order.

Example: `unique_elements([1, 2, 2, 3, 4, 4, 5])` # Expected output: [1, 2, 3, 4, 5]

### 4. Dictionary from Two Lists

Write a function `lists_to_dict(keys, values)` that takes two lists of equal length and returns a dictionary where the elements from the first list are the keys and the elements from the second list are the values.

Example: `lists_to_dict(['a', 'b', 'c'], [1, 2, 3])` # Expected output: {'a': 1, 'b': 2, 'c': 3}

### 5. Tuple Swapping

Write a function `swap_tuple(t)` that takes a tuple with two elements and returns a new tuple with the elements swapped.

Example: `swap_tuple((1, 2))` # Expected output: (2, 1)

## 6. Max and Min in a Set

Write a function `max_min(s)` that takes a set of numbers and returns a tuple containing the maximum and minimum numbers in the set.

Example: `max_min({1, 2, 3, 4, 5})` # Expected output: (5, 1)

## 7. Count Character Occurrences

Write a function `char_count(s)` that takes a string and returns a dictionary with characters as keys and the number of occurrences as values.

Example: `char_count('hello')` # Expected output: {'h': 1, 'e': 1, 'l': 2, 'o': 1}

## 8. Flatten a List of Lists

Write a function `flatten(lst)` that takes a list of lists and returns a flattened list.

Example: `flatten([[1, 2], [3, 4], [5]])` # Expected output: [1, 2, 3, 4, 5]

## 9. Check for Palindrome

Write a function `is_palindrome(s)` that takes a string and returns True if the string is a palindrome (ignoring spaces and case), and False otherwise.

Example: `is_palindrome('A man a plan a canal Panama')` # Expected output: True

## 10. Factorial

Write a function `factorial(n)` that takes an integer `n` and returns its factorial using recursion.

Example: `factorial(5)` # Expected output: 120