

- Extract Unique Values from Dictionary Values

```
In [1]: 1 def extract_unique_values(dictionary):
2         unique_values = set(val for sublist in dictionary.values() for val in sublist)
3         return list(unique_values)
4
5 # Example dictionary
6 sample_dict = {
7     'A': [1, 2, 3],
8     'B': [2, 3, 4],
9     'C': [3, 4, 5]
10 }
11
12 # Extract unique values from dictionary values
13 unique_values = extract_unique_values(sample_dict)
14 print("Unique values from dictionary values:", unique_values)
15
```

Unique values from dictionary values: [1, 2, 3, 4, 5]

- Find the Sum of All Items in a Dictionary

```
In [2]: 1 def sum_all_items(dictionary):
2         return sum(sum(sublist) for sublist in dictionary.values())
3
4 # Example dictionary
5 sample_dict = {
6     'A': [1, 2, 3],
7     'B': [2, 3, 4],
8     'C': [3, 4, 5]
9 }
10
11 # Calculate the sum of all items in the dictionary
12 total_sum = sum_all_items(sample_dict)
13 print("Sum of all items in the dictionary:", total_sum)
14
```

Sum of all items in the dictionary: 27

- Merge Two Dictionaries

```
In [3]: 1 def merge_dictionaries(dict1, dict2):
2         merged_dict = {**dict1, **dict2}
3         return merged_dict
4
5 # Example dictionaries
6 dict1 = {'A': 1, 'B': 2}
7 dict2 = {'C': 3, 'D': 4}
8
9 # Merge two dictionaries
10 merged_dictionary = merge_dictionaries(dict1, dict2)
11 print("Merged dictionary:", merged_dictionary)
12
```

Merged dictionary: {'A': 1, 'B': 2, 'C': 3, 'D': 4}

- Convert Key-Values List to Flat Dictionary:

```
In [4]: 1 def list_to_flat_dictionary(keys, values):
2         return dict(zip(keys, values))
3
4         # Example key and value lists
5         keys_list = ['A', 'B', 'C']
6         values_list = [1, 2, 3]
7
8         # Convert key-values list to flat dictionary
9         flat_dictionary = list_to_flat_dictionary(keys_list, values_list)
10        print("Flat dictionary:", flat_dictionary)
11
```

Flat dictionary: {'A': 1, 'B': 2, 'C': 3}

- Insertion at the Beginning in OrderedDict:

```
In [5]: 1 from collections import OrderedDict
2
3         def insert_at_beginning(input_ordered_dict, key, value):
4             input_ordered_dict.update({key: value})
5             input_ordered_dict.move_to_end(key, last=False)
6             return input_ordered_dict
7
8         # Example OrderedDict
9         ordered_dict = OrderedDict([('A', 1), ('B', 2), ('C', 3)])
10
11        # Insert at the beginning in OrderedDict
12        updated_ordered_dict = insert_at_beginning(ordered_dict, 'D', 4)
13        print("OrderedDict after insertion at the beginning:", updated_ordered_dict)
14
```

OrderedDict after insertion at the beginning: OrderedDict([('D', 4), ('A', 1), ('B', 2), ('C', 3)])

- Check Order of Characters in String using OrderedDict:

```

In [6]: 1 from collections import OrderedDict
        2
        3 def check_order_of_characters(input_string, pattern):
        4     pattern_dict = OrderedDict.fromkeys(pattern, 0)
        5     index = 0
        6
        7     for key in pattern_dict.keys():
        8         if key in input_string[index:]:
        9             index = input_string.index(key, index) + 1
       10             pattern_dict[key] += 1
       11         else:
       12             return False
       13
       14     return all(val > 0 for val in pattern_dict.values())
       15
       16 # Example input strings
       17 input_str = "hello world"
       18 pattern_str = "lo"
       19
       20 # Check order of characters in string using OrderedDict
       21 result = check_order_of_characters(input_str, pattern_str)
       22 print(f"The order of characters '{pattern_str}' in '{input_str}' is maintained:",
       23

```

The order of characters 'lo' in 'hello world' is maintained: True

- Sort Python Dictionaries by Key or Value:

```

In [7]: 1 # Example dictionary
        2 sample_dict = {'B': 3, 'A': 1, 'C': 2}
        3
        4 # Sort dictionary by keys
        5 sorted_by_key = dict(sorted(sample_dict.items()))
        6 print("Dictionary sorted by key:", sorted_by_key)
        7

```

Dictionary sorted by key: {'A': 1, 'B': 3, 'C': 2}

In []:

1