Here are the Python programs for your requested tasks:

**1. Extract Unique Values from Dictionary Values**

# Function to extract unique values from dictionary values

def extract\_unique\_values(dictionary):

all\_values = [value for values in dictionary.values() for value in values]

return list(set(all\_values))

# Input example

dictionary = {

'a': [1, 2, 3],

'b': [3, 4],

'c': [5, 6, 2]

}

print(f"Unique values: {extract\_unique\_values(dictionary)}")

**2. Find the Sum of All Items in a Dictionary**

# Function to find sum of all values in a dictionary

def sum\_of\_values(dictionary):

return sum(dictionary.values())

# Input example

dictionary = {'a': 10, 'b': 20, 'c': 30}

print(f"Sum of all values: {sum\_of\_values(dictionary)}")

**3. Merging Two Dictionaries**

# Function to merge two dictionaries

def merge\_dictionaries(dict1, dict2):

merged = dict1.copy() # Create a copy of dict1

merged.update(dict2) # Update it with items from dict2

return merged

# Input example

dict1 = {'a': 1, 'b': 2}

dict2 = {'c': 3, 'd': 4}

print(f"Merged dictionary: {merge\_dictionaries(dict1, dict2)}")

**4. Convert Key-Value List to Flat Dictionary**

# Function to convert a list of key-value pairs to a flat dictionary

def list\_to\_dict(key\_value\_list):

return dict(key\_value\_list)

# Input example

key\_value\_list = [('a', 1), ('b', 2), ('c', 3)]

print(f"Converted dictionary: {list\_to\_dict(key\_value\_list)}")

**5. Insertion at the Beginning in OrderedDict**

from collections import OrderedDict

# Function to insert at the beginning of an OrderedDict

def insert\_at\_beginning(ordered\_dict, key, value):

ordered\_dict.update({key: value}) # Update with new key-value

ordered\_dict.move\_to\_end(key, last=False) # Move the new key to the front

return ordered\_dict

# Input example

ordered\_dict = OrderedDict([('a', 1), ('b', 2), ('c', 3)])

print(f"OrderedDict after insertion at beginning: {insert\_at\_beginning(ordered\_dict, 'd', 4)}")

**6. Check Order of Character in String Using OrderedDict()**

from collections import OrderedDict

# Function to check order of characters in a string

def check\_order(string, pattern):

ordered\_dict = OrderedDict.fromkeys(string)

pattern\_index = 0

for char in ordered\_dict:

if char == pattern[pattern\_index]:

pattern\_index += 1

if pattern\_index == len(pattern):

return True

return False

# Input example

string = "abcdefg"

pattern = "abc"

print(f"Is '{pattern}' in order in string? {check\_order(string, pattern)}")

**7. Sort Python Dictionaries by Key or Value**

# Function to sort dictionary by key or value

def sort\_dict(dictionary, by='key'):

if by == 'key':

return dict(sorted(dictionary.items()))

elif by == 'value':

return dict(sorted(dictionary.items(), key=lambda item: item[1]))

# Input example

dictionary = {'a': 5, 'b': 2, 'c': 9, 'd': 1}

print(f"Dictionary sorted by key: {sort\_dict(dictionary, by='key')}")

print(f"Dictionary sorted by value: {sort\_dict(dictionary, by='value')}")