Programming Assignment-12

1. Write a Python program to Extract Unique values from dictionary values?

Ans.

```
def extract_unique_values(dictionary):
    unique_values = set(val for values in dictionary.values() for val in values)
    return unique_values

# Example
dictionary = {'A': [1, 2, 3], 'B': [3, 4, 5], 'C': [5, 6, 7]}
print("Unique values:", extract_unique_values(dictionary))
```

2. Write a Python program to find the sum of all items in a dictionary?

Ans.

```
def sum_of_items(dictionary):
    return sum(dictionary.values())

# Example
dictionary = {'a': 100, 'b': 200, 'c': 300}
print("Sum of all items:", sum_of_items(dictionary))
```

3. Write a Python program to merge two dictionaries?

Ans.

```
def merge_dictionaries(dict1, dict2):
    merged_dict = dict1.copy()  # Create a copy of dict1
    merged_dict.update(dict2)  # Merge dict2 into the copy
    return merged_dict

# Example
dict1 = {'a': 1, 'b': 2}
```

```
dict2 = {'c': 3, 'd': 4}
print("Merged dictionary:", merge_dictionaries(dict1, dict2))
```

4. Write a Python program to convert key-values list to a flat dictionary?

Ans.

```
def list_to_flat_dict(keys, values):
    return dict(zip(keys, values))

# Example
keys = ['a', 'b', 'c']
values = [1, 2, 3]
print("Flat dictionary:", list_to_flat_dict(keys, values))
```

5. Write a Python program for insertion at the beginning in `OrderedDict`?

Ans.

```
from collections import OrderedDict

def insert_at_beginning(ordered_dict, key, value):
    ordered_dict.update({key: value})  # Insert new item
    ordered_dict.move_to_end(key, last=False)  # Move to beginning
    return ordered_dict

# Example
ordered_dict = OrderedDict([('a', 1), ('b', 2), ('c', 3)])
print("Before insertion:", ordered_dict)
print("After insertion:", insert_at_beginning(ordered_dict, 'z', 0))
```

6. Write a Python program to check the order of characters in a string using `OrderedDict()`?

Ans.

```
from collections import OrderedDict


def check_order_of_characters(string, pattern):
    ordered_dict = OrderedDict.fromkeys(string)
    pattern_iter = iter(pattern)
    return all(char in pattern_iter for char in ordered_dict)


# Example
string = "hello world"
pattern = "hld"
print(f"Is the order of '{pattern}' correct in '{string}'? {check_order_of_characters(string, pattern)}")
```

7. Write a Python program to sort Python Dictionaries by Key or Value?

Ans.

```
def sort_by_keys(dictionary):
    return dict(sorted(dictionary.items()))
# Example
dictionary = {'b': 3, 'a': 1, 'c': 2}
print("Dictionary sorted by keys:", sort_by_keys(dictionary))


def sort_by_values(dictionary):
    return dict(sorted(dictionary.items(), key=lambda item: item[1]))
# Example
dictionary = {'b': 3, 'a': 1, 'c': 2}
print("Dictionary sorted by values:", sort_by_values(dictionary))
```