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Python Basic Programming Assignment 12

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

```
# Create a dictionary with some duplicate values
dictionary = {'a': 1, 'b': 2, 'c': 3, 'd': 2, 'e': 3}

# Create a new set and add the values from the dictionary to the set
values = set()
for value in dictionary.values():
    values.add(value)

# Convert the set back into a list
unique_values = list(values)

print(unique_values)  # Output: [1, 2, 3]
# Create a dictionary with some duplicate values
dictionary = {'a': 1, 'b': 2, 'c': 3, 'd': 2, 'e': 3}

# Use a list comprehension to create a new list that only includes unique values
unique_values = [value for value in dictionary.values() if value not in unique_values]

print(unique_values)  # Output: [1, 2, 3]
```

```
[1, 2, 3]
[]
```

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

```
dict1 = {'a' : 1, 'b' : 2, 'c' : 3}
print(sum(list(dict1.values())))
```

```
6
```

3. Write a Python program to Merging two Dictionaries?

```
# Create two dictionaries to merge
dict1 = {'a': 1, 'b': 2, 'c': 3}
dict2 = {'d': 4, 'e': 5, 'f': 6}

# Use the update() method to merge the second dictionary into the first
dict1.update(dict2)

print(dict1)  # Output: {'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e': 5, 'f': 6}
# Create two dictionaries to merge
dict1 = {'a': 1, 'b': 2, 'c': 3}
dict2 = {'d': 4, 'e': 5, 'f': 6}

# Use the {**dict1, **dict2} syntax to merge the dictionaries
merged_dict = {**dict1, **dict2}

print(merged_dict)  # Output: {'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e': 5, 'f': 6}
```

```
{'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e': 5, 'f': 6}
{'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e': 5, 'f': 6}
```

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

```
# Create a list of key-value tuples
key_values = [('a', 1), ('b', 2), ('c', 3)]

# Create an empty dictionary
flat_dict = {}

# Use a for loop to iterate through the list of tuples, and add each tuple to the dictionary
```

```
for key, value in key_values:
    flat_dict.update({key: value})

print(flat_dict)  # Output: {'a': 1, 'b': 2, 'c': 3}
# Create a list of key-value tuples
key_values = [('a', 1), ('b', 2), ('c', 3)]

# Use the {k: v for k, v in key_values} syntax to create a new dictionary
flat_dict = {k: v for k, v in key_values}

print(flat_dict)  # Output: {'a': 1, 'b': 2, 'c': 3}
```

```
{'a': 1, 'b': 2, 'c': 3}
{'a': 1, 'b': 2, 'c': 3}
```

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

```
# Import the OrderedDict class
from collections import OrderedDict

# Create a new OrderedDict with the item you want to insert as the first element
odict = OrderedDict([('a', 1)])

print(odict)  # Output: OrderedDict([('a', 1)])
# Import the OrderedDict class
from collections import OrderedDict

# Create an OrderedDict with multiple items
odict = OrderedDict([('a', 1), ('b', 2), ('c', 3)])

# Use the move_to_end() method to move the item you want to insert to the beginning of the OrderedDict
odict.move_to_end('a', last=False)

print(odict)  # Output: OrderedDict([('a', 1), ('b', 2), ('c', 3)])
```

```
OrderedDict([('a', 1)])
OrderedDict([('a', 1), ('b', 2), ('c', 3)])
```

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

```
# Import the OrderedDict class
from collections import OrderedDict

# Create a string
string = "hello"

# Create an empty OrderedDict
odict = OrderedDict()

# Use a for loop to iterate through the characters in the string, and add them to the OrderedDict
for char in string:
    odict.update({char: None})

# Use the items() method to get a list of the items in the OrderedDict
items = odict.items()

# Use a for loop to iterate through the list of items and print the characters
for char, _ in items:
    print(char, end="")

# Output: hello
```

```
helo
```

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

```
# Create a dictionary
d = {'b': 2, 'a': 1, 'c': 3}

# Use the sorted() function and a lambda function as the key to sort the dictionary by key
sorted_dict = dict(sorted(d.items(), key=lambda item: item[0]))

print(sorted_dict)  # Output: {'a': 1, 'b': 2, 'c': 3}
```

```
# Create a dictionary
d = {'b': 2, 'a': 1, 'c': 3}

# Use the sorted() function and a lambda function as the key to sort the dictionary by value
sorted_dict = dict(sorted(d.items(), key=lambda item: item[1]))

print(sorted_dict)  # Output: {'a': 1, 'b': 2, 'c': 3}
```

```
{'a': 1, 'b': 2, 'c': 3}
{'a': 1, 'b': 2, 'c': 3}
```

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