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Batch:- A1

Python Tuple, Set, Dictionary

1. Write a Python program to sum all the items in a list(without using built in function)

In [1]:
```
def sum_list(lst):
    total = 0
    for item in lst:
        total += item
    return total

my_list = [1, 2, 3, 4, 5]
sum_list(my_list)
```

Out[1]:
```
15
```

2. Write a Python program to reverse the tuple.

In [1]:
```
def reverse_tuple(tup):
    return tuple(reversed(tup))

my_tuple = (1, 2, 3, 4, 5)
reverse_tuple(my_tuple)
```

Out[1]:
```
(5, 4, 3, 2, 1)
```

3. Write a Python program to swap two tuples in Python.

In [2]:
```
def swap_tuples(tup1, tup2):
    tup1, tup2 = tup2, tup1
    return tup1, tup2

tuple1 = (1, 2, 3)
tuple2 = (4, 5, 6)
swap_tuples(tuple1, tuple2)
```

Out[2]:
```
((4, 5, 6), (1, 2, 3))
```

4. Write a Python program to Sort a tuple of tuples by 2nd item.

In [3]:
```
def sort_tuple(tup):
    return sorted(tup, key=lambda x: x[1])
```

```
my_tuple = ((1, 4), (3, 2), (5, 6), (7, 1))
sort_tuple(my_tuple)
```

Out[3]: [(7, 1), (3, 2), (1, 4), (5, 6)]

5. Write a Python program to check whether a given key exists in a dictionary or not.

In [4]:
```
def check_key(d, key):
    if key in d:
        return True
    else:
        return False

my_dict = {'a': 1, 'b': 2, 'c': 3}
key = 'b'
check_key(my_dict, key)
```

Out[4]: True

6. Write a Python program to iterate over dictionary items using for loop.

In [5]:
```
def iterate_dict(d):
    for key, value in d.items():
        print(key, ":", value)

my_dict = {'a': 1, 'b': 2, 'c': 3}
iterate_dict(my_dict)
```

```
a : 1
b : 2
c : 3
```

7. Write a Python program to print only keys of a dictionary.

In [7]:
```
def print_keys(d):
    for key in d:
        print(key)

my_dict = {'a': 1, 'b': 2, 'c': 3}
print_keys(my_dict)
```

```
a
b
c
```

8. Write a Python program to print values of dictionary.

In [8]:
```
def print_values(d):
    for value in d.values():
        print(value)

my_dict = {'a': 1, 'b': 2, 'c': 3}
print_values(my_dict)
```

```
1
2
3
```

9. Write a python program to perform

i) Union Operation

In [9]:
```
def set_operations(set1, set2):
    union = set1.union(set2)
    print("Union:", union)

set1 = {1, 2, 3, 4, 5}
set2 = {4, 5, 6, 7, 8}
set_operations(set1, set2)
```

```
Union: {1, 2, 3, 4, 5, 6, 7, 8}
```

ii) Intersection Operation

In [10]:
```
def set_operations(set1, set2):
    intersection = set1.intersection(set2)
    print("Intersection:", intersection)

set1 = {1, 2, 3, 4, 5}
set2 = {4, 5, 6, 7, 8}
set_operations(set1, set2)
```

```
Intersection: {4, 5}
```

iii) Difference Operation

In [11]:
```
def set_operations(set1, set2):
    difference = set1.difference(set2)
    print("Difference:", difference)

set1 = {1, 2, 3, 4, 5}
set2 = {4, 5, 6, 7, 8}
set_operations(set1, set2)
```

```
Difference: {1, 2, 3}
```