LIST FUNCTIONS

CODE:

Run   Code

```python
In [1]: nums = [2, 4, 6, 8, 10, 12, 14, 16, 18]
        fruits = ["apple", "banana", "cherry", "mango", "pear"]

        print("nums:", nums)
        print("fruits:", fruits)


        print("Positive index (nums[4]):", nums[4])
        print("Negative index (nums[-3]):", nums[-3])
        print("Range of values (nums[2:6]):", nums[2:6])

        nums[2] = 100
        print("After replacing element:", nums)

        nums.append(20)
        print("After append:", nums)

        nums.extend([22, 24, 26])
        print("After extend:", nums)

        nums.insert(3, 55)
        print("After insert:", nums)

        nums.remove(8)
        print("After remove:", nums)

        nums.pop()
        print("After pop:", nums)


        print("Length of list:", len(nums))
        print("Maximum value:", max(nums))
        print("Minimum value:", min(nums))
        print("Sum of list:", sum(nums))

        nums.reverse()
        print("Reversed list:", nums)

        print("Average:", sum(nums)/len(nums))

        mix = nums + fruits
        print("Combined list:", mix)

        copy_list = nums.copy()
        print("Copied list:", copy_list)
```

OUTPUT:

```
nums: [2, 4, 6, 8, 10, 12, 14, 16, 18]
fruits: ['apple', 'banana', 'cherry', 'mango', 'pear']
Positive index (nums[4]): 10
Negative index (nums[-3]): 14
Range of values (nums[2:6]): [6, 8, 10, 12]
After replacing element: [2, 4, 100, 8, 10, 12, 14, 16, 18]
After append: [2, 4, 100, 8, 10, 12, 14, 16, 18, 20]
After extend: [2, 4, 100, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26]
After insert: [2, 4, 100, 55, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26]
After remove: [2, 4, 100, 55, 10, 12, 14, 16, 18, 20, 22, 24, 26]
After pop: [2, 4, 100, 55, 10, 12, 14, 16, 18, 20, 22, 24]
Length of list: 12
Maximum value: 100
Minimum value: 2
Sum of list: 297
Reversed list: [24, 22, 20, 18, 16, 14, 12, 10, 55, 100, 4, 2]
Average: 24.75
Combined list: [24, 22, 20, 18, 16, 14, 12, 10, 55, 100, 4, 2, 'apple', 'banana', 'cherry', 'mango', 'pear']
Copied list: [24, 22, 20, 18, 16, 14, 12, 10, 55, 100, 4, 2]
```

TUPLE FUNCTION

In [2]:

```python
tuple_a = (3, 6, 9, 12, 15, 18, 21)
print("Original tuple:", tuple_a)


print("Positive index:", tuple_a[2])
print("Negative index:", tuple_a[-4])


temp = list(tuple_a)


temp.append(24)
print("After append:", tuple(temp))


temp.insert(2, 33)
print("After insert:", tuple(temp))

temp.remove(9)
print("After remove:", tuple(temp))

deleted = temp.pop()
print("After pop:", tuple(temp))
print("Popped element:", deleted)

print("Length:", len(temp))
print("Min:", min(temp))
print("Max:", max(temp))

print("Average:", sum(temp)/len(temp))

extra = (40, 50)
joined = tuple(temp) + extra
print("After adding tuples:", joined)

dup = tuple(temp)
print("Copied tuple:", dup)

rev = tuple(reversed(temp))
print("Reversed tuple:", rev)

temp.clear()
print("After clear:", tuple(temp))

del tuple_a
print("Tuple deleted successfully!")
```

OUTPUT:

```
Original tuple: (3, 6, 9, 12, 15, 18, 21)
Positive index: 9
Negative index: 12
After append: (3, 6, 9, 12, 15, 18, 21, 24)
After insert: (3, 6, 33, 9, 12, 15, 18, 21, 24)
After remove: (3, 6, 33, 12, 15, 18, 21, 24)
After pop: (3, 6, 33, 12, 15, 18, 21)
Popped element: 24
Length: 7
Min: 3
Max: 33
Average: 15.428571428571429
After adding tuples: (3, 6, 33, 12, 15, 18, 21, 40, 50)
Copied tuple: (3, 6, 33, 12, 15, 18, 21)
Reversed tuple: (21, 18, 15, 12, 33, 6, 3)
After clear: ()
Tuple deleted successfully!
```

SET FUNCITONS

```
In [18]: set_a = {2, 4, 6, 8, 10, 12}
         set_b = {6, 12, 18, 24}
         print("Union:", set_a.union(set_b))
         print("Intersection:", set_a.intersection(set_b))
         print("Difference (A-B):", set_a.difference(set_b))
         print("Difference (B-A):", set_b.difference(set_a))
         print("Symmetric difference:", set_a.symmetric_difference(set_b))
```

```
Union: {2, 4, 6, 8, 10, 12, 18, 24}
Intersection: {12, 6}
Difference (A-B): {8, 2, 10, 4}
Difference (B-A): {24, 18}
Symmetric difference: {2, 4, 8, 10, 18, 24}
```

File   Edit   View   Insert   Cell   Kernel   Widgets   Help

Code

In [37]:
```python
dit={'name':'chotta beem','city':'dholakpur'}
print(dit)
print(dit['name'])
dit['villain']='kirmada'
print('updated dit:',dit)
print('keys:',dit.keys())
print('values:',dit.values())
print('deleted:',dit.popitem())
print(dit)
print('clear:',dit.clear())
dit.update({'anime':'death-note','country':'japan'})
print('update',dit)
print('remove:',dit.pop('anime'))
d2={'dsf':23}
print(dit|d2)
dit={'name':'chotta beem','city':'dholakpur','anime':'death-note','country':'japan'}
print('key and value pairs:')
for k,v in dit.items():
    print(k,'=',v)
```

```
{'name': 'chotta beem', 'city': 'dholakpur'}
chotta beem
updated dit: {'name': 'chotta beem', 'city': 'dholakpur', 'villain': 'kirmada'}
keys: dict_keys(['name', 'city', 'villain'])
values: dict_values(['chotta beem', 'dholakpur', 'kirmada'])
deleted: ('villain', 'kirmada')
{'name': 'chotta beem', 'city': 'dholakpur'}
clear: None
update {'anime': 'death-note', 'country': 'japan'}
remove: death-note
{'country': 'japan', 'dsf': 23}
key and value pairs:
name = chotta beem
city = dholakpur
anime = death-note
country = japan
```