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# Python Assignment 1

**1. Write a program to perform following operations on list**

1. Sum all the items in a list.

In [3]:
```
# list

# 1. Sum all the items in a list.

total = 0
list1 = [10, 20, 30, 50, 10]

for ele in range(0, len(list1)):
    total = total + list1[ele]

print("Sum of all elements in given list: ", total)
```

```
Sum of all elements in given list:  120
```

2. Get the largest number from a list.

In [9]:
```
# list

# 2. Get the largest number from a list.

list2 = [10, 20, 30, 50, 10]

list2.sort()

print("Largest element is:", list2[-1])
```

```
Largest element is: 50
```

3. Remove duplicates from a list.

```
In [11]: # list

         # 3. Remove duplicates from a list.

         list3 = [1, 1, 6, 6, 3, 4, 2, 0]
         print("The original list is : " + str(list3))

         temp = []
         for i in list3:
             if i not in temp:
                 temp.append(i)

         print("The list after removing duplicates : " + str(temp))
```

```
The original list is : [1, 1, 6, 6, 3, 4, 2, 0]
The list after removing duplicates : [1, 6, 3, 4, 2, 0]
```

4. Separate positive and negative number from a list.

```
In [13]: # list

         # 4. Separate positive and negative number from a list.

         list4 = [1, -2, -6, 4, -5, 7, 10, 6, -1]

         print("The original list is : " + str(list4))

         res = sorted(list4, key = lambda i: 0 if i == 0 else -1 / i)

         print("Result after performing sort operation : " + str(res))
```

```
The original list is : [1, -2, -6, 4, -5, 7, 10, 6, -1]
Result after performing sort operation : [1, 4, 6, 7, 10, -6, -5, -2, -1]
```

5. Filter even and odd number from a list.

```
# 5. Filter even and odd number from a list.

list5 = [1, 2, 4, 5, 3, 9, 0]
even = []
odd = []

for num in list5:
    if num % 2 == 0:
        even.append(num)
    else:
        odd.append(num)
print("Even numbers in the list: ", even)
print("Odd numbers in the list: ", odd)
```

```
Even numbers in the list:  [2, 4, 0]
Odd numbers in the list:  [1, 5, 3, 9]
```

## 2. Write a program to perform following operations on string

1. Reverse string.

In [17]:
```
# 2. string
# 1. Reverse string.
def reverse(string):
    string = string[::-1]
    return string

temp = "Hello World"

print("The original string is : ", end="")
print(temp)

print("The reversed string (using extended slice syntax) is : ", end="")
print(reverse(temp))
```

```
The original string is : Hello World
The reversed string (using extended slice syntax) is : dlroW olleH
```

2. Count vowels and consonants in a string.

In [19]:
```
#  2. string
# 2. Count vowels and consonants in a string.

def vowel_count(str):
    count = 0
    vowel = set("aeiouAEIOU")

    for letter in str:
        if letter in vowel:
            count = count + 1

    print("No. of vowels :", count)

str = "Beautyful A Day"

vowel_count(str)
```

```
No. of vowels : 6
```

3. Count the number of letters in a word.

In [26]:
```
# 3. Count the number of letters in a word.
str = "hello"
count = 0

for i in str:
    count = count + 1
print(count)
```

```
5
```

4. Convert lower letter to upper and upper letter to lower in a string.

```
# 4. Convert lower letter to upper and upper letter to lower in a string.

str1="Have a nice DAY!";
newStr = "";

for i in range(0, len(str1)):
    if str1[i].islower():
        newStr += str1[i].upper();
    elif str1[i].isupper():
        newStr += str1[i].lower();
    else:
        newStr += str1[i];
print("String after case conversion : " +  newStr);
```

```
String after case conversion : hAVE A NICE day!
```

5. Count lower, upper, numeric and special characters in a string.

```
def Count(str):
    upper, lower, numberic, special = 0, 0, 0, 0
    for i in range(len(str)):
        if str[i].isupper():
            upper += 1
        elif str[i].islower():
            lower += 1
        elif str[i].isdigit():
            numberic += 1
        else:
            special += 1
    print('Upper case letters:', upper)
    print('Lower case letters:', lower)
    print('Number:', numberic)
    print('Special characters:', special)

str = "Best@Day4Ever!"
Count(str)
```

```
Upper case letters: 3
Lower case letters: 8
Number: 1
Special characters: 2
```

### 3. Write a program to perform following operations on dictionary

1. Check whether a given key exists in a dictionary or not.

In [33]:
```
# 3 dictionary

# 1. Check whether a given key exists in a dictionary or not.

my_dict = {'name': 'John', 'age': 23, 'city': 'New York'}

key_to_check = 'age'

if key_to_check in my_dict:
    print(f"{key_to_check} exists in the dictionary.")
else:
    print(f"{key_to_check} does not exist in the dictionary.")
```

```
age exists in the dictionary.
```

2. Iterate over dictionary items using for loop.

In [34]:
```
# 3 dictionary

# 2. Iterate over dictionary items using for loop.

my_dict = {'name': 'John', 'age': 23, 'city': 'New York'}

for key, value in my_dict.items():
    print(f"{key}: {value}")
```

```
name: John
age: 23
city: New York
```

3. Concatenate two dictionaries to create one.

In [37]:
```
#  dictionary

# 3. Concatenate two dictionaries to create one.

def Concat(dict1, dict2):
    return(dict2.update(dict1))

dict1 = {'name': 'John', 'age': 23, 'city': 'New York'}
dict2 = {'country': 'USA'}

print(Concat(dict1, dict2))

print(dict2)
```

```
None
{'country': 'USA', 'name': 'John', 'age': 23, 'city': 'New York'}
```

4. Sum all the values of a dictionary.

In [38]:
```
#  dictionary

# 4. Sum all the values of a dictionary.

dict3 = {'a': 1, 'b': 4, 'c': 3, 'd': 4}

total = sum(dict3.values())

print(total)
```

```
12
```

5. Get the maximum and minimum value of dictionary.

In [40]:
```
#  dictionary
# 5. Get the maximum and minimum value of dictionary.

dict4 = {'a': 10, 'b': 1, 'c': 15, 'd': 20, 'e': 3}

max_value = max(dict4.values())
min_value = min(dict4.values())

print("Maximum value: ", max_value)
print("Minimum value: ", min_value)
```

```
Maximum value:  20
Minimum value:  1
```