1. Write a Python function to sum all the numbers in a list. Sample List : (8, 2, 3, 0, 7)

In [1]:

```
def sum(numbers):
    total = 0
    for x in numbers:
        total += x
    return total
print(sum((8, 2, 3, 0, 7)))
```

```
20
```

2. Write a Python function to multiply all the numbers in a list. Sample List : (8, 2, 3, -1, 7)

In [14]:

```
def multiply(numbers):
    total = 1
    for x in numbers:
        total *= x
    return total
print(multiply((8, 2, 3, -1, 7)))
```

```
-336
```

3. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.

In [13]:

```
def factorial(n):
    if n == 0:
        return 1
    else:
        return n * factorial(n-1)
n=int(input("Input a number to compute the factiorial : "))
print(factorial(n))
```

```
Input a number to compute the factiorial : 12
479001600
```

4. Write a Python function to check whether a number falls within a given range.

In [2]:

```
def test_range(n):
    if n in range(3,9):
        print( " %s is in the range"%str(n))
    else :
        print("The number is outside the given range.")
test_range(5)
```

```
 5 is in the range
```

5. Write a Python function that accepts a string and counts the number of upper and lower case letters. Sample String : 'The quick Brow Fox'

In [3]:

```
def string_test(s):
    d={"UPPER_CASE":0, "LOWER_CASE":0}
    for c in s:
        if c.isupper():
           d["UPPER_CASE"]+=1
        elif c.islower():
           d["LOWER_CASE"]+=1
        else:
           pass
    print ("Original String : ", s)
    print ("No. of Upper case characters : ", d["UPPER_CASE"])
    print ("No. of Lower case Characters : ", d["LOWER_CASE"])

string_test('The quick Brown Fox')
```

```
Original String :  The quick Brown Fox
No. of Upper case characters :  3
No. of Lower case Characters :  13
```

6.Write a Python function that takes a list and returns a new list with distinct elements from the first list. Sample List : [1,2,3,3,3,3,4,5]

In [12]:

```
def unique_list(l):
  x = []
  for a in l:
    if a not in x:
      x.append(a)
  return x

print(unique_list([1,2,3,3,3,3,4,5]))
```

```
[1, 2, 3, 4, 5]
```

7. Write a Python function that takes a number as a parameter and checks whether the number is prime or not.

In [5]:

```
def test_prime(n):
    if (n==1):
        return False
    elif (n==2):
        return True;
    else:
        for x in range(2,n):
            if(n % x==0):
                return False
        return True
print(test_prime(9))
```

```
False
```

8. Write a Python function to check whether a number is "Perfect" or not.

In [6]:

```
def perfect_number(n):
    sum = 0
    for x in range(1, n):
        if n % x == 0:
            sum += x
    return sum == n
print(perfect_number(6))
```

```
True
```

9.Write a Python function that checks whether a passed string is a palindrome or not.

In [7]:

```
def isPalindrome(string):
    left_pos = 0
    right_pos = len(string) - 1

    while right_pos >= left_pos:
        if not string[left_pos] == string[right_pos]:
            return False
        left_pos += 1
        right_pos -= 1
    return True
print(isPalindrome('aza'))
```

```
True
```

10. Write a Python function to check whether a string is a pangram or not.

In [ ]:

```
import string, sys
def ispangram(str1, alphabet=string.ascii_lowercase):
    alphaset = set(alphabet)
    return alphaset <= set(str1.lower())

print ( ispangram('The quick brown fox jumps over the lazy dog'))
```

11. Write a Python program that accepts a hyphen-separated sequence of words as input and prints the words in a hyphen-separated sequence after sorting them alphabetically. Sample Items : green-red-yellow-black-white

In [11]:

```
items=[n for n in input().split('-')]
items.sort()
print('-'.join(items))
```

```
green-red-yellow-black-white
black-green-red-white-yellow
```