ANSWERS:

Python Functions:

OUTPUT QUESTIONS

1.

```
In [1]: def greet(name):
            print('Hello',name)
        greet('Steve')
        greet(123)
```

```
Hello Steve
Hello 123
```

2.

```
In [2]: def greet(name1,name2,name3):
            print('Hello',name1,name2,name3)
        greet('Steve','bill','yash')
```

```
Hello Steve bill yash
```

3.

```
In [4]: def greet(*name):
            print('Hello',name[0],name[1],name[2])
        greet('Steve','bill','yash')
```

```
Hello Steve bill yash
```

4.

In [3]:
```
def greet(name='Guest'):
    print('Hello',name)
greet()
greet('Steve')
```

```
Hello Guest
Hello Steve
```

5.

In [7]:
```
def my_function(cityname):
    print(cityname +",India")
my_function("Delhi")
my_function("Mumbai")
my_function("Chennai")
```

```
Delhi,India
Mumbai,India
Chennai,India
```

6.

```
def my_function(cityname, countryname):
    print(cityname +","+ countryname)
my_function("Lucknow","India")
```

```
Lucknow,India
```

7.

In [10]:
```
def my_function(x):
    return 7+x
print(my_function(3))
print(my_function(8))
print(my_function(10))
```

```
10
15
17
```

8.

```
In [11]: def greet(*names):
             for name in names:
                 print("Hello",name)
         greet("Tom","Ed","Harry")
```

```
Hello Tom
Hello Ed
Hello Harry
```

9.

```
In [12]: def my_function(song3,song2,song1):
             print("My favourite song is "+song2)
         my_function(song1="bohemain",song2="supersonic",song3="imitosis")
```

```
My favourite song is supersonic
```

10.

```
In [13]: def my_function(disease = "COVID-19"):
             print(disease+"is a communicable disease")
         my_function()
```

```
COVID-19is a communicable disease
```

11.

```
In [14]: square = lambda x:x*x
         print(square(3))
```

```
9
```

12.

```
In [17]: def f():
             print(s)
         s="I love Geeks"
         f()
```

```
I love Geeks
```

13.

In [19]:
```
def f():
    s="Me too"
    print(s)
s="I love Geeks"
f()
print(s)
```

```
Me too
I love Geeks
```

14.

In [21]:
```
a=1
def f():
    print("inside f():",a)
def g():
    a=2
    print("inside g():",a)
def h():
    global a
    a=3
    print("inside h():",a)
print('global:',a)
f()
print('global:',a)
g()
print('global:',a)
h()
print('global:',a)
```

```
global: 1
inside f(): 1
global: 1
inside g(): 2
global: 1
inside h(): 3
global: 3
```

1.Write a Python function to sum all the numbers in a list.

In [25]:
```
def sum_numbers(num):
    sum=0
    for numbers in num:
        sum= sum + numbers
    return sum
numbers_list=[204,560,457,500]
sum_of_list=sum_numbers(numbers_list)
print("The sum of numbers in the list:",sum_of_list)
```

```
The sum of numbers in the list: 1721
```

2. Write a Python function to multiply all the numbers in a list.

In [28]:
```
def mul_numbers(num):
    product=1
    for numbers in num:
        product= product*numbers
    return product
numbers_list=[20,5,4,50]
mul_of_list=mul_numbers(numbers_list)
print("The product of numbers in the list:",mul_of_list)
```

```
The product of numbers in the list: 20000
```

3. Write a program to create function `func1()` to accept a variable length of arguments and print their value.

In [29]:
```
def func1(*arg):
    for x in arg:
        print(x)
func1(2,30,48)
func1(65)
func1(65,40)
```

```
2
30
48
65
65
40
```

4. Write a program to create function `calculation()` such that it can accept two variables and calculate addition and subtraction. Also, it must **return both addition and subtraction in a single return call**.

```
In [30]: def calculation(a,b):
             addition= a+b
             subtraction=a-b
             return addition,subtraction
         output=calculation(32,54)
         print(output)
```

```
(86, -22)
```

5. Write a program to create a function show_employee() using the following conditions.

- It should accept the employee's name and salary and display both.
- If the salary is missing in the function call then assign default value 9000 to salary

```
In [31]: def show_employee(name,salary=9000):
             print("Name:",name,"salary:",salary)
         show_employee("Benita")
         show_employee("Arnav",20000)
```

```
Name: Benita salary: 9000
Name: Arnav salary: 20000
```

6. Assign a different name to function and call it through the new name

_

```
In [32]: def display_student(name,age):
             print(name,age)
         display_student("Emma",26)
         show_tudent=display_student
         show_tudent("Emma",26)
```

```
Emma 26
Emma 26
```

PROBLEM 1

Create a fruitful function with parameter that will return the area of the triangle

```
In [33]: def area_triangle(b,h):
             area= 1/2 *b*h
             return area
         Area=area_triangle(4,5)
         print("The area of a triangle=",Area)
```

```
The area of a triangle= 10.0
```

PROBLEM 2

Using a fruitful function that return multiple values, create a program that will read two numeric values and will compute for the sum, difference, product and quotient of the two numbers

```
In [34]: def compute(a,b):
             addition=a+b
             subtraction=a-b
             product=a*b
             quotient=a/b
             return addition,subtraction,product,quotient
         output=compute(2,5)
         print("The addition,subtraction,product,quotient of two numbers:",output)

         The addition,subtraction,product,quotient of two numbers: (7, -3, 10, 0.4)
```

PROBLEM 3:

9. Write a program that will read a person's name and a greeting code. The greeting code is a set of number representing different languages of saying thank you. Set 1 as the default value for the greeting code.
   The greetings codes are as follows:
   1 – Shukran
   2 – Merci
   3 – Salamat
   4 – Xie xie
   5 – thank you,
   Other numbers – "Still updating the database"

In [12]:
```
def greetingcode(name,gcode=1):
    if gcode==1:
        gcode="Shukran"
    elif gcode==2:
        gcode="Merci"
    elif gcode==3:
        gcode="Salamat"
    elif gcode==4:
        gcode="Xie Xie"
    elif gcode==5:
        gcode="Thank you"
    else:
        gcode="Still updating the database"
    print(f"{name},I want to say {gcode}")

greetingcode("Arnav")
greetingcode("Tom",5)
greetingcode("celista",6)
```

```
Arnav,I want to say Shukran
Tom,I want to say Thank you
celista,I want to say Still updating the database
```