*#program - functions*def demo(name,age):  
 print(name,age)  
  
demo("Mary",20)  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#program*def funct1(v1,v2,v3):  
 print("\n",v1,"\n",v2,"\n",v3)  
  
funct1(20,40,60)  
def funct1(v1,v2):  
 print("\n", v1, "\n", v2, "\n")  
funct1(30,20)  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#Program-*def calculation(a,b):  
 add=a+b  
 sub=a-b  
 return add,sub  
print("Additon and Subtraction values are")  
res=calculation(50,20)  
print(res)  
  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
*#program*def calculate(a,b):  
 return a+b,a-b  
  
add,sub= calculate(50,30)  
print("addition -",add, "Subtraction -",sub)  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#program*def show\_emp(a,b=9000):  
 *# b=9000* print("Name: ",a,"," "Salary: ",b)  
show\_emp("Ben", 12000)  
show\_emp("mary")  
  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#Program*def my\_function(food):  
 for x in food:  
 print("List of items - ",x)  
  
fruits=["apple","banana","mango","cherry"]  
my\_function(fruits)  
  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
*#Program*def check(s):  
 return s\*5  
print("First result" , check(4))  
print("Second result" ,check(5))  
print("Third result" , check(9))  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#program*def even(list1):  
 list2=[]  
 for i in list1:  
 if i % 2 ==0:  
 list2.append(i)  
 return list2  
list2= even([1,2,3,4,5,6,7])  
print("Even numbers: ",list2)  
  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
*#program*def arithmetic(a,b):  
 add = a+b  
 sub = a-b  
 multiply= a\*b  
 division=a/b  
 return add,sub,multiply,division  
a,b,c,d = arithmetic(21,18)  
print("Addition ",a)  
print("Subtraction ",b)  
print("Multiply ",c)  
print("Division ",d)  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#program*def function1():  
 localvariable="use only inside the function"  
 print("local variable- ",localvariable)  
function1()  
globalvariable = "we can use it anywhere"  
print("globalvariable-",globalvariable)  
  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#program*globalvar= 777  
def function1():  
 print("Value is ",globalvar)  
def function2():  
 print("value is ",globalvar)  
  
function1()  
function2()  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")  
  
*#program*x=5  
def function1():  
 print("value of x is ",x)  
def function2():  
 global x  
 x =7  
 print("Value of x,after changing it's value- ",x)  
def function3():  
 print("value of x in function3- ",x)  
  
function1()  
function2()  
function3()  
print("~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~")

*#program- Non local variable*def outer\_func():  
 x=77  
  
 def inner\_func():  
 nonlocal x  
 x = 90  
 print("value in inner\_function ",x)  
  
 inner\_func()  
 print("Value of x ", x)  
  
outer\_func()  
  
*#program-Keyword arguments*def message(fname,sname):  
 print("Hello ",fname,sname)  
  
message(fname="mary",sname='Moses')  
message(fname="lara", sname="Moses")  
  
*#program-Variable length arguments*def addition(\*number):  
 total = 0  
 for i in number:  
 total=total+i  
 print("sum is ",total)  
  
addition()  
addition(20,30,40)  
addition(50,60,80,90)

Output:

Mary 20

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

20

40

60

30

20

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Additon and Subtraction values are

(70, 30)

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

addition - 80 Subtraction - 20

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Name: Ben ,Salary: 12000

Name: mary ,Salary: 9000

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

List of items - apple

List of items - banana

List of items - mango

List of items - cherry

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

First result 20

Second result 25

Third result 45

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Even numbers: [2, 4, 6]

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Addition 39

Subtraction 3

Multiply 378

Division 1.1666666666666667

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

local variable- use only inside the function

globalvariable- we can use it anywhere

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Value is 777

value is 777

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

value of x is 5

Value of x,after changing it's value- 7

value of x in function3- 7

value in inner\_function 90

Value of x 90

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Hello mary Moses

Hello lara Moses

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sum is 0

sum is 90

sum is 280

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