def my\_function(): // function declaration

statements

return <expression> # none

my\_function #calling a function (function call)

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# example

print("Writing a function")

def Hello():

print("Hello world")

# Function call

# a function must be defined before the function calling otherwise the

# python interpreter gives an error

print("Calling a function using function name")

Hello()

print("Function executed successfully")

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# when a function does not a have return expression it returns "None"

# Function parameters / arguments

#defining the function with arguments

print("Function with Arguments")

def func(name):

print("Hello",name);

print("Function created")

print("Calling the function")

print("----------------"\*5)

#calling the function

func("Ayush")

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#Default argument function

def display(name = 30, age = "Rohit"): # default arguments

print("The name of the student is ",name)

print("The age of the student is ",age)

print("The demo for Default argument Function")

# taking values from the user

a = str(input("Enter the name: "))

b = int(input("Enter the age: "))

print("A:",a)

print("B:",b)

# printing the details

print("Calling the function")

display(a, b)

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"\*2)

print("Calling the function with 1 argument")

display(a)

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"\*2)

print("Calling the function without arguments")

display()

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"\*2)

print("Calling the function with 1 argument")

display(int(b),)

print("The code ended...")

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#python function to print student details (Keyword argument)

def display(a,b): # Keyword arguments

print("The name of the student is %s", a)

print("The age of the student is %d", b)

print("Function to get student details and print it..")

# taking values from the user

name = str(input("Enter the name: "))

age = int(input("Enter the age: "))

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"\*2)

print("Calling the function with keyword arguments")

display(b=25, a='Virat') # keyword argument

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"\*2)

print("Calling the function with keyword and positional argument")

display(23,b=24) # some arguments are keyword and some are not

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"\*2)

# 23 is considered as positional argument and value goes to a

print("Calling function with proper values")

display('Rohit',20)

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"\*2)

print("calling function with postional arguments after keyword argument")

display(b=20,'Rohit') # positional arguments should be written fist

# display("Rohit',b=20)

======================================

# Keyword argument demo

# defining the function

def display(a=18, b="Rohit"): # default arguments

print("The name of the student is %s", a)

print("The age of the student is %d", b)

print("Function to get student details and print it..")

# taking values from the user

name = str(input("Enter the name: "))

age = int(input("Enter the age: "))

# printing the details

print("Calling the function with arguments")

display(name, age)

display("Suresh")

print("Calling the function with 1 argument")

display(age) # 1st positional argument

# print("Calling the function without arguments")

# display()

print("Calling the function with keyword arguments")

display(b="anand", a=25)

print("Calling the function with 1 keyword arguments")

display(b=name)

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# Passing mutable Object (List)

print("Passing the list to the function")

# defining the function

def update\_list(num):

print("Inside the function")

print("List inside function ",num)

num.append(200)

num.append(300)

print("Modified list inside function = ", num)

# defining the list

num = [100, 300, 400, 500]

print("The list is: ",num)

# calling the function

print("Calling the list")

update\_list(num)

print("list outside function = ", num)

======================================================

# Passing string

def update\_string(str):

print("String inside the function:",str)

str = str + "Python is cool"

print("printing the updated string inside function :", str)

string1 = "Python is a developer friendly."

print("Original string:",string1)

# calling the function

print("Calling the function...")

update\_string(string1)

print("printing the string outside function :", string1)

======================================================

# documentation string in function

def func1():

'''This is the function for demo'''

print('Welcome to the functions')

print('This is the demo for Functions')

func1() # function call

print(func1.\_\_doc\_\_)

===============================================

# Variable values inside and outside function

def func1():

print('This is the function')

a = 20

print('Inside the function',a)

print('This is the demo for Functions')

print('This is the 2nd statement')

func1()

a = 35

print('Outside the function',a)

func1()

================================================

# default argument function

def func1(name,str1 = 'This is a good day'):

print('This is the function')

print('Hello',name +','+str1)

print('This is the functions demo')

func1('Rohit','Very Good Session...')

func1('Virat') # when we dont provide the 2nd argument, while execution it takes the default

# from the func definition

===============================================

# keyword argument function

def func1(name,str1 = 'This is Python'):

print('This is the function')

print('Hello',name +','+str1)

print('This is the functions demo')

func1('Rohit','Very Good Session...')

func1(name='Karan')

func1('Virat',str1='This is Java')

==================================================

# Arbitary argument function

def func1(\*name):

print('This is the function')

print('Hello',name)

print('This is the functions demo')

func1('Rohit')

func1('Rohit','Virat')

func1('Suraj','Latika','Mahesh')

====================================

def func1(age,\*name,\*\*kwargs): #\*args \*\*kwargs

print('This is the function')

print('Hello',name)

print(type(name))

print(kwargs)

print((type(kwargs)))

print("Age is:",age)

print('This is the functions demo')

func1(20,'Rohit',s1=80,s2=70)

# func1('Rohit','Virat')

# func1('Suraj','Latika','Mahesh')

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# gobal keyword example

x = 'global'

def func1():

global x

print('The value of x', x)

a = 'local'

x = x\*2 # since we have used global keyword

print('The value of x', x)

print('The value of a', a)

print('This is ouside function')

func1()

print('X outside the funct',x)

#print('The value of a', a)

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# Non-local keyword example

def outer():

x = 'local'

print('1)x in outer',x)

def inner():

nonlocal x

x = 'nonlocal'

print('Inside inner',x)

print('2)x in outer', x)

inner()

print('3)x in outer', x)

print('Outside the function ')

outer()

==================================================

def outer():

x = 'local' # local variable x

print('1)x in outer',x)

def inner(): # inner function

nonlocal x # referencing the x from outer function

x = 'nonlocal'

print('Inside inner',x)

def inner\_two():

nonlocal x

x = "Demo\_done"

print("X inside inner\_two",x)

inner\_two()

print('2)x in outer', x)

inner()

print('3)x in outer', x)

print('Outside the function ')

outer()

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# reading multiple inputs from user

a,b = [int(a) for a in input('Enter two values:').split()]

print('First number is:',a)

print('Second number is:',b)

print('\*\*\*\*\*\*'\*10)

a,b,c = [int(a) for a in input('Enter three values:').split()]

print('First number is:',a)

print('Second number is:',b)

print('Third number is:',c)

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