In [1]:
```
#functions
print("hello")
```

```
hello
```

In [10]:
```
def call(x):
 return x
print(callable(call))
```

```
True
```

In [5]:
```
a=100
print(type(a))
```

```
<class 'int'>
```

In [13]:
```
def func():
    a=100
print(func)
```

```
<function func at 0x00000231144BC3A0>
```

In [16]:
```
def func():
    pass
print(type(func))
```

```
<class 'function'>
```

In [26]:
```
def demo():
 pass
print(type(demo))
```

```
<class 'function'>
```

In [28]:
```
def local_func():
    print("this is a local function")
local_func()
```

```
this is a local function
```

In [29]:
```
def outer_func():
    def inner_func():
     print("inner function")
    inner_func()
    print("outer function")
outer_func()
```

```
inner function
outer function
```

In [10]:
```
def out_fun():
 def inn_fun():
    pass
    print("inn_func")
    print("out_func")
 inn_fun()
out_fun()
```

```
inn_func
out_func
```

In [31]:
```
def abc(x):
 return x**2
def xyz(func): #name alone->reference
 num=10
 return func(num)
xyz(abc)
```

Out[31]:
```
100
```

In [9]:
```
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
C:\Users\AMULYA~1\AppData\Local\Temp/ipykernel_20396/3167440171.py in <module>
      4         result=result+i
      5     print(result)
----> 6 sum(10,15)
      7

C:\Users\AMULYA~1\AppData\Local\Temp/ipykernel_20396/3167440171.py in sum(star
t, end)
      1 def sum(start,end):
      2     result=0
----> 3     if i in range(start,end+1):
      4         result=result+i
      5     print(result)

NameError: name 'i' is not defined
```

In [15]:
```
def sum(start,end):
    result=0
    for i in range(start,end+1):
        result=result+1
        print(result)
sum(10,15)

def sum(start,end):
    result=0
    for i in range(start,end+1):
        result=result+1
        return result

s=sum(10,15)
print(s)
```

```
1
2
3
4
5
6
1
```

In [22]:
```
def sum(start,end):
    if start>end:
        print("start should be less than end")
        return
    result=0
    for i in range(start,end+1):
        result=result+1
    return result
s=sum(15,10)
print(s)
```

```
start should be less than end
None
```

In [23]:
```
def test():
    i=100
print(test())
```

```
None
```

In [24]:
```
def test():
    i=100
    return
print(test())
```

```
None
```

In [28]:
```
#global variables and local variables
global_var=15
def fun():
    local_var=25
print(global_var)
fun()
```
```
15
```

In [29]:
```
global_var=15
def fun():
    local_var=25
print(global_var)
fun()
print(local_var)
```
```
15

---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
C:\Users\AMULYA~1\AppData\Local\Temp/ipykernel_20396/1015612179.py in <module>
      4 print(global_var)
      5 fun()
----> 6 print(local_var)

NameError: name 'local_var' is not defined
```

In [35]:
```
xy=100
def m1():
    xy=200
    print(xy)
m1()
print(xy)
```
```
200
100
```

In [38]:
```
t=10
def var():
    t=15
    print(t)
var()
```
```
15
```

In [48]:
```
r=10
def met():
    global r
    r=15
    print(t)
met()
print(t)
```

```
10
10
```

In [2]:
```
def fun(i,j=10):
    print(i,j)
fun(5)
```

```
5 10
```

In [3]:
```
def fun(i,j=10):
    print(i,j)
fun(5,25)
```

```
5 25
```

In [8]:
```
#passing arguments
def fun(name,greetings):
    print(greetings+ " "+name)
fun("radha","hello")
fun(name="krishna",greetings="hello")
fun(greetings="hello",name="krishna")
```

```
hello radha
hello krishna
hello krishna
```

In [12]:
```
def my_func(a,b,c):
    print(a,b,c)
my_func(10,20,30)  #positional arguments
my_func(a=10,b=20,c=30)   #keyword arguments
my_func(10,b=20,c=30)
my_func(10,c=30,b=20)
```

```
10 20 30
10 20 30
10 20 30
10 20 30
```

In [15]:
```
#return multiple values from function
def meth1(a,b):
    if a>b:
        return a,b
    else:
        return b,a
s=meth1(10,20)
print(s)
print(type(s))
```

```
(20, 10)
<class 'tuple'>
```

In [ ]: