In [2]:
```
def fact(n):
    fac = 1
    for i in range(n,1,-1):
        fac = fac*i
    return fac

print("------------------Operators--------------------")

x=10
y=6
z=20
lst = [10,20,30,40,50,60,'hello','Guys']
print("x:",x)
print("y:",y)
print('z:',z)
print("lst:",lst)
print("-------------------------------------------------")

print("<-----Arithmetic operators----->")
print("x+y=",x+y)
print("x-y=",x-y)
print("x*y=",x*y)
print("x/y=",x/y)
print("x//y=",x//y)
print("x%y=",x%y)

print("<-----Comparision Operators----->")
print(" x>y =",x>y)
print(" x<y =",x<y)
print(" x==y =",x==y)
print(" x>=y =",x>=y)
print(" x<=y =",x<=y)
print(" x!=y =",x!=y)

print("<----Logical Operators---->")
print("-----and-----")
if x>y and x>z:
    print("x is the largest")
if y>x and y>z:
    print("y is the largest")
if(z>x and z>y):
    print("z is the largest")
print("----or----")
ch=input("enter char:")
if(ch=='A'or ch=='a'or ch=='E'or ch=='e'or ch=='I'or ch=='i' or ch=='O'o
r ch=='o'or ch=='U'or ch=='u'):
    print(ch," is Vowel")
else:
    print(ch," is consonant")

print("<----Membership Opearator---->")
print("x in lst:",x in lst)
print("y in lst:",y in lst)
print("y not in lst:",y not in lst)

print("<----Identity Opearator---->")
print("x is y:",x is y)
print("x is not y:",x is not y)


def function():
    print("hello")
def functionarg(arg):
    print(arg)
def returnfun():
    a=10
    b=20
    return "a+b={}".format(a+b)

def mreturn():
    name = "LDCE"
    depart = "IT(7th sem)"
    return name,depart

def default(a=10,b=20):
    return a+b

def keyargs(a,b):
    return a-b

def varlength(*num):
    obj=[]
    for i in num:
        obj.append(i)
    return obj
def varlengthk(**keyargs):
    dis = {}
    for key,val in keyargs.items():
        dis[key] = val
    return dis
def scope():
    x=10
    print("Value inside function : ",x)

print("----simple function----")
function()

print("----function with arguments----")
functionarg("Hello World")

print("----function with return----")
print(returnfun())

print("---function with multiple return---")
name,depart = mreturn()
print("College = {}".format(name))
print("Department = {}".format(depart))

print("---Default arguments---")
print("default() :",default())
print("default(4,5) :",default(4,5))

print("---Keyword arguments---")
print("keyargs(a=10,b=20)",keyargs(a=10,b=20))
print("keyargs(b=10,a=20)",keyargs(b=10,a=20))

print("---Var-length(non-keyword) arguments---")
print("varlength(10,20) : ",varlength(10,20))
print("varlength(10,20,30) : ",varlength(10,20,30))
print("varlength(10,20,30,40) : ",varlength(10,20,30,40))

print("---Var-length(keyword) arguments---")
print('varlengthk(car="BMW",price=2500000) :::',varlengthk(car="BMW",pri
ce=2500000))
print('varlengthk(car="BMW",price=2500000,country="india") :::',varlengt
hk(car="BMW",price=2500000,country="india"))

print('----Scope of Variable----')
x=20
scope()
print("value outside function:",x)

print('----Module Function----')
print(fact(5))

print()
print()
print()
```

```
------------------Operators--------------------
x: 10
y: 6
z: 20
lst: [10, 20, 30, 40, 50, 60, 'hello', 'Guys']
-------------------------------------------------
<-----Arithmetic operators----->
x+y= 16
x-y= 4
x*y= 60
x/y= 1.6666666666666667
x//y= 1
x%y= 4
<-----Comparision Operators----->
 x>y = True
 x<y = False
 x==y = False
 x>=y = True
 x<=y = False
 x!=y = True
<----Logical Operators---->
-----and-----
z is the largest
----or----
enter char:r
r  is consonant
<----Membership Opearator---->
x in lst: True
y in lst: False
y not in lst: True
<----Identity Opearator---->
x is y: False
x is not y: True
----simple function----
hello
----function with arguments----
Hello World
----function with return----
a+b=30
---function with multiple return---
College = LDCE
Department = IT(7th sem)
---Default arguments---
default() : 30
default(4,5) : 9
---Keyword arguments---
keyargs(a=10,b=20) -10
keyargs(b=10,a=20) 10
---Var-length(non-keyword) arguments---
varlength(10,20) :  [10, 20]
varlength(10,20,30) :  [10, 20, 30]
varlength(10,20,30,40) :  [10, 20, 30, 40]
---Var-length(keyword) arguments---
varlengthk(car="BMW",price=2500000) ::: {'car': 'BMW', 'price': 2500000}
varlengthk(car="BMW",price=2500000,country="india") ::: {'car': 'BMW',
'price': 2500000, 'country': 'india'}
----Scope of Variable----
Value inside function :  10
value outside function: 20
----Module Function----
120
```

In [ ]:
```
```