#DICTIONARY IN PYTHON

#Dictionary consist of 2 things : 1) Key and 2) Values

#Used to map values on key

#Represented by "{}"

<1>

```
data= {1:"Apple", 2:"Mango", 4:"Banana"}        #defining a dictionary
print(data)                                     #output - {1: 'Apple', 2: 'Mango', 4: 'Banana'}
print(data[1])                                  #output - Apple
print(data.keys())                              #output - dict_keys([1, 2, 4])
print(data.values())                            #output - dict_values(['Apple', 'Mango', 'Banana'])
data[5]="Grapes"                                #Adding new key and value in data
print(data)                                     #output - {1: 'Apple', 2: 'Mango', 4: 'Banana', 5: 'Grapes'}
print(data.get(2,"Not Found"))                  #output - Mango
print(data.get(3,"Not Found"))                  #output - Not Found
data.pop(2)                 #Syntax - pop(key), key with value 2 gets poped out of dictionary
print(data)                                     #output - {1: 'Apple', 4: 'Banana', 5: 'Grapes'}
del data                                        #Deletes whole dictionary
```

<2>Taking dictionary as input from user

```
dict={}
num=int(input("Enter number of elements"))
for i in range(0,num):
    key=int(input("Enter key : "))
    value=input("Enter value for respective key")
    dict[key]=value

print(dict)
```

 # "FUNCTIONS" IN PYTHON

"def" keyword is used to initialize a function

<1>Add and subtract 2 numbers

```
def add_sub(x,y):                    #Here add_sub is name of function and x,y are known as Formal arguements/parameters
    c=x+y
    b=x-y
    return c,b        # return is a keyword in python which can return multiple values, here it is returning c,b
answer1,answer2=add_sub(8,5)         # '8' , '5' are known as actual arguements/parameters
print(answer1)                       #output - 13
print(answer2)                       #output - 3
```

<2>Passing default value in function and how to overwrite it

```
def fun(x,y=10):                     #y is assigned with default value = 10
    z=x*y+(x/y)
    return z
ans=fun(10)
print(ans)                           #output - 101.0
ans2=fun(10,20)                      #default value of y is overwritten by 20
print(ans2)                          #output - 200.5
```

<3>Factorial of a number using functions

```
def fact():
```

```
        f=1
        num=int(input("Enter any number"))      #input - 5
        for i in range(1,num+1):
                f=f*i
        print(f)                                #output - 120
fact()
```

<4>Palindrome

```
def pal(name):
    if name[::-1]==name:
       print("Palindrome")
    else:
       print("It is not a palindrome")
name=input("Enter any name")                    #input - naman
pal(name)                                       #output - Palindrome
```

<5>Passing List in function/count even and odd numbers from list

```
def count(lst):
        even=0
        odd=0
        for i in lst:
                if i%2==0:
                        even=even+1
                else:
                        odd+=1
        return even,odd
```

```
lst=[1,2,3,4,5,6,7,8,9,10]
a,b=count(lst)                    #passing list in function
print("even :",a)                 #output - even : 5
print("odd :",b)                  #output - odd : 5
```

#LAMBDA FUNCTION IN PYTHON

<1>Without lambda function

```
def mul(a,b,c):
    return a*b*c
p=mul(10,20,5)
print(p)
```

<2>By using lambda function

#Lambda functions can have any number of arguments but only one expression. The expression is evaluated and returned.

```
f=lambda x,y,z :x*y*z     #keyword lambda is used to deal with lambda function, Syntax - lambda bound_variable:body
result =f(10,20,5)
print(result)             #output - 1000
```