**Functions and Methods**

1. Defining and calling functions in Python.

* Functions allow code reuse and better modularity.
* Function is block of code
* Syntax:

def fun(arguments):

# Code block

return value

1. Function arguments

* **Positional Arguments**: Arguments passed in order.
* **Keyword Arguments**: Arguments passed with a key-value pair.
* **Default Arguments**: Provide default values to arguments.

1. Scope of Variables

* **Global Scope**: Accessible everywhere in the code.
* **Local Scope**: Defined inside a function and accessible only within that function.

1. Built-in methods for strings, lists, etc.

* **string**

print(len(s))

print(s.capitalize())

print(s.casefold())

print(s.upper())

print(s.count("P"))

print(s.isalpha())

print(s.replace("P","T"))

print(s.swapcase())

print(s.title())

* **List**

l= [10,20,1.45,5.64,"hello","world",6.123,1,1,True,False]

l.append(100)

print(l)

print(l.count(1))

l.extend([400,600,800])

print(l.index(20))

l.insert(2,"diya")

print(l)

l.pop(4)

print(l)

l.remove("hello")

print(l)

* **tuple:**

t=(1,2,3,4.5,"hello","diya",23.12)

print(type(t))

print(t.count(1))

print(t.index(4.5))

l1=list(t)

print(l1)

l1.append(400)

print(l1)

l3=tuple(l1)

print(l3)

* **dictionary**

d ={1:"hello",2:"hello1",3:"why",4:"diya"}

print(d.get(3))

print(d.items())

print(d.keys())

print(d.values())

d.update({5:"patil",6:"hi"})

print(d)

d.pop(2)

print(d)

d.popitem()

print(d)