In python functions are written by using def keyword

def f1():

    return 12

To a function you may use default parameters to make it optional parameter, c is optional parameter A and b are mandatory parameters	def f1(a,b,c=23):
	
	    print(a,b,c)
	
	    return 12
	
	#to call function
	
	f1(12,13)
	
	f1(12,13,14)
	
	#call using keyword parameters
	
	f1(c=34,a=20,b=46)

If a function call itself, then it is called as recursive function	def addition(n):
	  if n==1:
	    return 1
	  else:
	    print(f"in recurssiove call for {n-1}")
	    return n+addition(n-1)
	
	ans=addition(6)
	print(ans)

Basic data types in python

Number-→ int, float,complex

String-→ string can be enclosed in ''(single quote),""(in double quote),""" """(triple double quote), ''' '''(triple single quote)

Boolean-> True, False

Variables are of 2 types:

1. Mutable--- The value can be changed.
2. Immutable—The value cannot be changed. All basic data types are immutable.

Number functions

bin(num)	Prints binary representation of the number
int(num)	Converts the string or binary representation in decimal format

Round(num,precision)	This function will show precision number of digits after decimal point
math.sqrt(num)	It will show the sqrt of the number
Math.ceil(num)	It will remove the fraction part and gives the next number
Math.floor(num)	It will remove the fraction part and gives the same number

The functions that can be applied to numbers are available in math library

<mark>To import math library</mark>

import math

<mark>To see the list of functions in any module</mark>

dir(math)

<mark>To see the help of any one of the functions.</mark>

help(math.sqrt) -→ it will show the one liner quick help

<mark>String function</mark>

Internally the string is treated as list of characters and every character has 2 indexes +ve and -ve

Splicing of the string

T	H	I	S		I	S		S	T	R	I	N	G
0	1	2	3	4	5	6	7	8	9	10	11	12	13
-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1

To find length of the string	len(s)	S="this is string" len(s)=14
To find the last caharectes	S[-1]	G
To find second last character	S[-2]	N
To find values from 3 rd index to 1oth	S[3:11]	s is str
To find values from the 5 till end	S[5:]	Is string
To find the string from th beginning till 5 th index	S[:6]	This I
To find all characters at even index position	S[::2]	TI SSRN
To find all characters at odd index position	S[1::2]	TI SSRN
To print string in reverse order	S[::-1]	GNIRTS SI SIHT
TO PRINT FROM -9 TO 11	S[-9:11]	IS STR

s.upper()	Converts the string in uppercase
s.lower()	Converts the string in lowercase
s.startswith(substr)	Return true ,if the given string starts with substr
s.endswith(substr)	Returns true if the string ends with substr
s.find(substr,[start,end])	Return the position of 1 st occurrence of substr , if the start and end is not given then it searches the full string, otherwise it searches in the given range, it returns -1 if substr not found
s.rfind(substr,[start,end])	Return the position of last occurrence of substr , if the start and end is not given then it searches the full string, otherwise it searches in the given range, it return -1 if substr not found
s.index(substr,[start,end])	Return the position of 1 st occurrence of substr , if the start and end is not given then it searches the full string, otherwise it searches in the given range, but it throws exception if the substr not found
s.rindex(substr,[start,end])	Return the position of last occurrence of substr , if the start and end is not given then it searches the full string, otherwise it searches in the given range, but it throws exception if the substr not found
s.strip(string)	It will delete all occurrences of the characters from leftmost and rightmost side of the string
s.lstrip(string)	It will delete all occurrences of the characters from leftmost side of the string
s.rstrip(string)	It will delete all occurrences of the characters from rightmost side of the string
s.split(delimiter)	It will brek the string into parts at delimiter character and returns a list
"delimiter".join(lst)	It will join all the strings from the list separated by delimiter