1. In Python, what is the difference between a built-in function and a user-defined function? Provide an example of each.

Ans – build in function like which are already build like – append , drop , pop , sum, they are pre- defined function and come with the python standard library.

User defined function which is manage and created by user and its started with def

Example , a = [10]

a.append[10] 2nd - def manoj(a):

return a+10

result = manoj(10)

print(result)

1. How can you pass arguments to a function in Python? Explain the difference between positional arguments and keyword arguments.

Ans – for passing a arguments we can use a two way positional and keyword,

Positional – are passed to function on the oder which are provided

Keyword argument – here we use the parameter and define the argument with equal sign.

Difference = in postion oder is matter , in keyword it doesnot matter

In position values are passed based in the postion, values are passed explicit argument

1. What is the purpose of the return statement in a function? Can a function have multiple return statements? Explain with an example.

Ans – purpose of return statement is used a send a result back where it is called. , yes function can have a multiple return statement but only one return is executed per function call.

def add(a, b):

return a + b

result = add(5, 3)

print(result)

1. What are lambda functions in Python? How are they different from regular functions? Provide an example where a lambda function can be useful.

Ans - a lambda function in python is a small anonymous function created using a lambda keyword

It is used when u need a simple function for a short period of time, especially usefull for function like map(), filter()

Ex - square = lambda x: x \* x

print(square(4))

1. How does the concept of "scope" apply to functions in Python? Explain the difference between local scope and global scope.

Ans – scope refers to the region on a program where a variable is recorgnised and accessible

Python has 4 types of scope – local scope , global scope , enclosing scope , built in scope

Local sope is define inside the function and accessible only inside the function

Global scope is outside all function and accessible inside and outside all function

1. How can you use the "return" statement in a Python function to return multiple values?

Ans – by seprating them by commas

1. What is the difference between the "pass by value" and "pass by reference" concepts when it comes to function arguments in Python?

Ans – in pass by , A copy of the variable value is passed to the function, changes made inside the function and doesn’t not effect the original value , Immutable data type – int , str , float , tuple

PASS BY REFRENCE - actual variable is passed

* Changes made inside the function effect the original variable , mutable function are list , dict , set

1. Create a function that can intake integer or decimal value and do following operations:
   1. Logarithmic function (log x)
   2. Exponential function (exp(x))
   3. Power function with base 2 (2x)
   4. Square root
2. Create a function that takes a full name as an argument and returns first name and last name.

Def split\_name(full\_name):

Name\_parts = full\_name.split()

First\_name = name\_parts[0]

Last\_name = name\_parts[-1]

Full name =”manoj pandey”

First , last = split\_name(full\_name)