11th June - Python (Functions Assignment)

1. A lambda function is an anonymous function (i.e., defined without a name) that can take any number of arguments but evaluates and returns only one expression. Eg:

add = lambda x,y: x+y

print(add(1,2))

1. Yes lambda function can have two arguments we can declare them while defining a lambda function.

Syntax:

lambda arguments(separated by comma): expression

eg:

mult = lambda x, y: x\*y

print(mult(7,9))

1. Lambda functions are used to create simple expressions – that is, expressions that are usually a single line of a statement. They're also useful when you want to use the function once.

even\_odd = lambda x: 'even' if x % 2 == 0 else 'odd'

print(even\_odd(23))

1. Advantages:
2. They are simple to write
3. They make code writing faster
4. Automatic return of results

Disadvantages:

1. They can’t handle complex requirements.
2. They come with no names so we need to red code to understand what they do.
3. Yes lambda functions can access variables outside of their scope eg

greeting = "Hello"

say\_hello = lambda x: greeting + " " + x

print(say\_hello("Abhay"))

1. sqr = lambda x: x\*\*2

print(sqr(5))

1. my\_list = [2,3,1,9,6,4,]

largest = lambda x: max(x)

print(largest(my\_list))

1. even\_odd = lambda x: 'even' if x % 2 == 0 else 'odd'

print(even\_odd(23))

1. my\_list = ['cat','care','orange','python basic']

sort\_asc = lambda x: sorted(x,key = len)

print(sort\_asc(my\_list))

1. list1 = [1,3,2,6,4,8,9,7]

list2 = [2,12,45,6,7,8,9]

print(list(set(list1) & set(list2)))

1. def fact(n):

if n == 0 or n == 1:

return 1

else:

return n \* fact(n-1)

print(fact(5))

1. def fib(n):

if n == 0 or n == 1:

return 1

else:

return n + fib(n-1)

print(fib(5))

1. list1 = [1,2,3,4,5,6]

def sum\_list(x):

if len(x) == 0:

return 0

else:

return x[len(x)-1] + sum\_list(x[0:len(x)-1])

print(sum\_list(list1))

1. def is\_palindrome(s):

if len(s) < 1:

return "It is palindrome"

else:

if s[0] == s[-1]:

return is\_palindrome(s[1:-1])

else:

return "It is not palindrome"

a=str(input("Enter string:"))

is\_palindrome(a)

1. def gcd(a,b):

if(b==0):

return a

else:

return gcd(b,a%b)

a=int(input("Enter first number:"))

b=int(input("Enter second number:"))

print('GCD is: ', gcd(a,b))