Doubt related to	Type of doubt	Provide timestamp	Describe your doubt here in detail.	Add Screenshot if required	Solution
Previous Week D	Conceptual		Sir as we know 'list' is a keyword in python used for the datatype list and we cannot use it as a variable name. but when i run the code(below) in jupyter notebook or google colab.list = 'sumit' #using a datatype as variable name nd it does not give any error. now if i run thist = (1,2,3) new_list = list(t) it is giving error and i cannot typeconvert a tuple.Is there something wrong with python?. And if it is not isn't this a loophole??	https://drive.google.com/open?id=1lQol1r3Ys5oshpL0i8HrJxMk2MmHbO-R	It is not recommended to name your variables with Python Keywords. Yes, Python will not throw the error, but while doing other codes, you can get the unexpected behavior you gave to the example. So, it is recommended not to use the keywords as variables or class or function names.
Monday Session	Conceptual		While working with file how can i change the default folder and also hw to know current default path in colab through command. Sir has shown to create a new folder and put the path but my question is how to change it for existing file.		For your requirements that you have told, the OS module can help you. Sir will teach this module in detail. Also, you can search on internet how to use the OS module according to your need. And to know your current directory where the google collab or other code files execute, try this bash command to the code cell. (Note: This is not a python specific.)
Tuesday Session	Coding related		Not able to read file from pc	https://drive.google.com/open?id=1Cs7qy9kJGTwiFzpizVpGi6Y8k5BpiaoY	There is no such file that you want to read through Python. Or you are passing the wrong file path. There is a concept about the relative path and absolute path. You can check out this concept here: https://www.geeksforgeeks.org/absolute-relative-pathnames-unix

| Wednesday Sess | Coding related | 1:30 hour onward | ```
import time
def timer(func):
    def wrapper(&x):
      x=time.time()
      func(*x)
      print("the function" ,func.__name__, "took", time.time()-x,"seconds")
    return wrapper

@timer
def fib(p):
  if p<=1:return p
  else:
      return (fib(p-1)+fib(p-2) )


print(fib(6))
```<br><br>This code is showing error . Is it the problem with recursion? And what exactly is happening inside recursion that its showing error? Can't @timer execute each time fib function is called? | | ```
import time

def timer(func):
    def wrapper(*args):
      x=time.time()
      res = func(*args)
      print("the function" ,func.__name__, "took", time.time()-x,"seconds")
      return res
    return wrapper

@timer
def Fibonacci(n):
  if n <= 1:
      return n
  else:
      print(f"n-1={n-1} & n-2={n-2}")
      return Fibonacci(n-1) + Fibonacci(n-2)
``` |
Wednesday Sess	Conceptual	45:20	So the program mentioned here has a global scope, local scope and enclosed scope. So does the scope exist for the entire program or only for a specific part of the program. Let's say once the inner function is closed, and we only have outer function. Does it mean that the local scope is not outer function, or will it still be called as enclosed scope?	https://drive.google.com/open?id=1goWDK9sHv4GoM1rVSt9-fljVDu0HwhzT	The scope concept exists throughout the program. No matter in which line the execution is going on. And though the inner function is executed, that function scope is called Local Scope. And the outer function is called Enclosing scope. The scopes will not change.
Wednesday Sess	Conceptual		Can we add a built-in variable of our own? let's say i want to create a built in variable pi =3.14. so whenever I am typing "pi" in any jupyter notebook, it should treat it as built-in variable and give the value 3.14		You can create new built-in methods or functions. The built-in methods/variables are created by those developers who have built Python. You don't have to access that. For such types of examples that you have told, you can use the global scope and global variable.
Wednesday Sess	Conceptual		Can you give me any 1good reason where it is good to change the global variable from local scope? I think we can use it for some security concerns like, the global app will stop working if the time exceeds 30 seconds of inactivity. but I am not sure whether it's a correct example of not		That security reason can handle without using the global variable. Also, you can use it when this need. But in most cases, a global scope/global keyword is not required. Also, we can remember that when you use the OpenCV module for image preprocessing and need to read images from the camera, that time has to use. So when you will face such type of problems, you will use the global.

Wednesday Sess	Conceptual	1:12:24	When we added return wrappper at the end, why it didn't give us a never ending loop as it will keep on calling the wrapper function		That wrapper function is returned by the decorator function. So when the main function is executed, that main function call that returned wrapper function. So that will not cause an infinite loop. For example; import time def timer(func): def wrapper(*args): start = time.time() func(*args) print('time taken by',func.__name__,time.time()-start,'secs') return wrapper @timerdef hello(): print('hello wolrd') time.sleep(2) Rather than doing decorator syntax, you can write the code like this:import time def wrapper(): start = time.time() # start the hello function codes print("hello world") time.sleep(2) # end the hello function code print('time taken by',func.__name__,time.time()-start,'secs')So the hello function is wrapped with the decorator function. Butit is possible that you write the same code again and again. To reducethat, the decorator is used.
Previous Week D	Conceptual		Can I assign the reference variable name as class name ? Won't it show an error? I would like you to explain with a screenshot of pythontutor . I copied it there but did not understand	https://drive.google.com/open?id=12HMW2xsTu2lMC1BfbKn376tDaOi9goJ0, https://drive.google.com/open?id=1N4ixh_c-0kGBKsegJgJfJ5T8MAarKJgm	Let's see your example. First, the object will be created that you are creating by using the Address class. Then that created object reference is stored to that variable that is also Address. So first time will not get any errors. But the second time you will get an error. Like in the last session (30th November 2022), the max function is changed when you have created a function with the same name in global scope, and sir was getting an error.

Previous Week D	Coding related		Sir I am providing a screenshot can you explain this what is happening in this code please explain once again use of **args and use of %s in this code	https://drive.google.com/open?id=1L2O3y32RLQS31_d-ExPiOdiNzyGwkAvo	Let's say you want to build a function to find the total of the numbers. So you specify 3 parameters, then if the user can't pass more than 3 numbers to get the results. Also, users have to pass 3 numbers all the time, and can't pass 2 numbers at a time to get the result. Otherwise, will get an error. def add(a, b, c): return a + b + c So, you have to generalize the function so that any number of input parameters can handle this function. So for that case, you have to use *args. def add(*args): total = 0 for i in args: total += i return total add(4, 3, 7, 9. 3. 1) Same as with **kwargs. In *args, you will not give the name to every number like in the above example. But what if you have passed all the numbers as arguments, Then the **kwargs is required. def add(**kwargs): total = 0 for key, value in kwargs. items(): total += value add(a=2, b=3, c=7, d=5, e=9, f=8, g=1) Internally, *args is converted to a Python tuple and **kwargs is converted to Python Dictionary. And the %s is string formatting techniques. I am assuming you are familiar with the format function. This %s has the same type of behavior.
Previous Week D	Program related		Sir I request you to give more OOP case studies and coding-related problems . The assignments till encapsulation were very good but the assignment on inheritance was not up to the mark . Questions were vague and we need questions which explains their purpose completely . I request you to give an OOP problem daily to have a solid grip on it . Not only for OOP i would request you to do the same for all difficult topics		

Tuesday Session	Coding related		def function (l, s, **kwargs):
			    pass
			
			function ([1,2,3], 1, 3)
			Error : function() takes 2 positional arguments but 3 were given.
			here 3 is an extra argument
			Sir , is there anyway we can handle this exception?
			I know that we can declare function as
			def function(l, s, *args, **kwargs):
			
			But the question says we cannot change the code . So is there any other way to handle the above error.
					The function definition is given and different function calls are also given. You have to use those function calls and analyze what type of errors are coming. According to that, you have to handle that errors.

Tuesday Session	Coding related	.	Hlw, Here i upload two pictures, One code is run but other code is not run In not running code when i raise error than compiler give me name error. But in running code it run successfully.	https://drive.google.com/open?id=1hWUvq-mC3L9MuL8nNlGZdzjP7c4dtj9A, https://drive.google.com/open?id=132xMRC_6NfUC2AVjtPsTRH1UCMEH9OTy	The StopIteration exception is a prebuilt exception that is already defined. But the InvalidName exception is not a pre-defined exception. So you have to build this exception that can raise errors when you need it. You can create this exception by building on your class named InvalidName by inheriting with Exception. Also, you can search on google.
Previous Week D	Conceptual		Hi I've a couple of questions that are not related to current or previous topics. 1. Difference and relationship between data science and machine learning? 2. Difference between statistical learning and machine learning?		You can get the answer to your first question from https://www.geeksforgeeks.org/data-science-vs-machine-learning. And the second question is kind of a debate topic. But you can read it from https://towardsdatascience.com/the-actual-difference-between-statistics-and-machine-learning-64b49f07ea3
Previous Week D	Conceptual		Write a Python program to add three given lists using Python map and lambda. yeh last wale list ka item 16 kaha gaya iterate toh hona chahiye tha na add ni hua toh.	https://drive.google.com/open?id=1teqnun9B8DjjslbNvqB0cTf8V28Xlcoc	The list l2 has 6 elements but others have 5 elements. That's why the last sum is not calculated.

Previous Week D	Coding related	none	https://practice.geeksforgeeks.org/problems/non-repeating-element3958/1
			
			yeh question isme non repeated element in arr find karne kaa code likhna hai
			
			arr = [-1, 2, -1, 3, 2]
			class solution:
			  def nonrepeatingelement(self,arr,N):
			    for i in arr:
			     if arr.count(i) == 1:
			       res = i
			    return res
			# i do not know why we r using n here but i got the solution prob is voh gfg accept nahi kr raha please check
			obj = solution()
			obj.nonrepeatingelement(arr,5)
					The N is here represented as the length or number of elements of the array. And you can do this:
					for i in arr:
					        if arr.count(i) == 1:
					          return i
					Return the ith element after checking the count. If you allow looping over the whole array, then it is possible that there is more than one single non-repeating element. Then your res will be updated. But according to the question, the first non-repeating element has to return. So return when you got the first element from inside the loop.

	Coding related			

```
import random

class FlashCard:

    def __init__(self):
        self.__fruits = {
            'apple':'red',
            'banana':'yellow',
            'watermelon':'green',
            'strawberry':'pink',
            'guava':'green'
        }

    def quiz(self):

        while True:

            fruit,color = random.choices(list(self.__fruits.items()))[0] //Doubt Here!??

            print('What is the color of {}'.format(fruit))
            user_answer = input()

            if user_answer.lower() == color:
                print('Sahi jawab')
            else:
                print('Galat jawab')

            option = int(input('enter 0 to play again 1 to exit'))

            if option:
                break

print('Welcome to the fruit quiz')
fc = FlashCard()
fc.quiz()
```

In this above code, why have we given "[0]" (fruit,color = random.choices(list(self.__fruits.items()))[0]) at the end?

The self.__fruits.items() returns a dict_items object. By wrapping it with the list, you are converting that dict_items object to a python list. That list is something that looks like this: [('apple', 'red'), ('banana', 'yellow'), ('watermelon', 'green'), ('strawberry', 'pink')]. On top of this list, by using the choices method of the random module, you are choosing an item randomly from the list. Let's say that item is [('watermelon', 'green')] which is a list of a tuple of 2 elements. But we need the fruit's name and color. That's why there is 0 used as indexing. If you are using the choice method instead of the choices method, you will get direct the tuple. E.g.,fruit, color = random.choice(list(self.__items))

Previous Week D

| | Coding related | | PS C:\Users\77kan\OneDrive\Documents\Project> pip install paralleldots
pip : The term 'pip' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
At line:1 char:1
+ pip install paralleldots
+ ~~~
    + CategoryInfo   : ObjectNotFound: (pip:String) [], CommandNotFoundException
    + FullyQualifiedErrorId : CommandNotFoundException | | You can find the solution from here: https://stackoverflow.com/questions/36835341/pip-is-not-recognized. If still it is not resolved, don't
hesitate to contact us. |
| Friday Paid Sess | | | | | |