1. What is data structure of list and tuple? Why tuples are immutable

When memory is allocated for list, it store in two blocks(one is fixed and other is variable size), While Tuple is stored in a single block of memory

1. What are basic Python methods?(static method, class methods, instance method)

@Staticmethod, @ classmethod, instance method

1. What is significance of lambda in python, explain eg. With map

When function name is not defined lambda/anonymous function,

When we want to use function as argument to another function at that time lambda is used

1. What is decorator?

Decorator is a wrapped function which is use to change the behavior of function and class.

Eg.

Def my\_decorator(f):

Def inner():

Print(“My decorator”)

Return f()

Return inner

@my\_decorator

Def hello():

Print(“Called my decorator”)

Hello()

1. Context manager in Python? (Explain With statement)

Context manager allow you to allocate and release resource precisely when you want to.

1. Program- input ‘abc’ get the combination of all o/p- [‘abc’, ’bca,’ cab’…]
2. What is AWS lambda?

AWS lambda is one of the best compute service in market which is serverless.

1. What is s3, what type of data it store?

S3 is a simple storage service interface that you can use to store and retrive any ammount of data at any time from anywhere on web.

1. Script for copy data from s3 to dynamo db

<https://www.youtube.com/watch?v=Y18HF5ALXew>

1. What is a views, index in dynamodb

Views are virtual table

1. What is Redshift? Sizes
2. What is SQS?
3. How to write test cases without database call?(mocking)
4. Agile methodology
5. Describe about your flask project
6. What are major difference between P2.x and 3.x

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| --- | --- |
| Python2 | Python3 |
| Syntax changes print “……” | Print(“……..”) |
| Int 3/2= 1 | 3/2=1.5 |
| Strings are stored as ASCII by default | Text strings are unicode by default |
| Xrange(), range() | Range() |

1. What is PEP8

PEP8 is standard defined to write Python code

1. Import specific package from library
2. Use of white spaces
3. Follow indentation
4. Line should be limited to 79 character
5. Use of docstring
6. Indentation- use spaces than tabs
7. Naming style: class name start with capital, variable name with small letter, function name with snake case
8. Lambda returns at what state?

Lambda return output once

1. Range and xrange

Range returns – list as a return type , require more memory to store list, less speed

Xrange returns – xrange object or generator object, require less memory, faster

1. What is generator ?

Generator is a function which is created using ‘yeild’ statement to return the result. It’s a simple way of creating iterator.

It is fairly simple to create a generator in Python. It is as easy as defining a normal function, but with a yield statement instead of a return statement.

If a function contains at least one yield statement (it may contain other yield or return statements), it becomes a generator function. Both yield and return will return some value from a function.

The difference is that while a return statement terminates a function entirely, yield statement pauses the function saving all its states and later continues from there on successive calls.

1. Explain yield statement?

Yield is used to return from function without destroying the state of its local variable and when the function is called, the execution starts from the last yield statement

1. Explain tell() and seek()

Tell() method return the current file position in a file stream

Seek() – can change the current file position

1. Program- get the list elements and its indexes

Enumerate()

1. Program- Get unique elements of list?

Set([])

1. How to iterate generator object?

Using next() method------------ next (generator\_obj)

1. Difference list append, extend and insert?

L1= [1,2,3,4,5]

L2=[6,7,8]

L1.append(l2) # [1,2,3,4,5,[6,7,8]]

L1.extend(l2) #[1,2,3,4,5,6,7,8]

L1.insert(2,l2) #[1,2,[6,7,8],3,4,5]

1. Scraping- What will you do after getting data from website?

Will clean data, structure it

1. For data cleaning which library you use?

Pandas and numpy

1. How will you change ”Null” values for particular row?

Replace() method

1. If 50% values for one of the column is null what will you do?

Will remove that column

1. OOPS- is multiple inheritance possible in Python?

Yes

1. What is \_\_init\_\_?

It’s a constructor used in class

1. What is instance , global and local variable?

Self.a is instance variable,

Global variable execute by default

Local variable scope is limited to its function

1. How encapsulation achieved in Python?

Encapsulation can be achieved using private and protected access members.

Encapsulation can be achieved by declaring the data members of a class either as a private or protected.

In Python private and protected are called Access Modifiers as they modify access or methods defined in a class.

Private variable denoted with double underscore

Protected variable denoted by single underscore

1. DB- Write a generic query to get salary for specific ID?

Select salary from employee where id={}

1. Full Outer join related one question
2. List files present in directory?

Import os

Os.listdir()

1. What are views in Postgress

View is a database object that is of a stored query. A view can be accessed as virtual table in PostgreSQL

1. What are Indexes in Postgress

Indexes are a common way to enhance database performance. An index allows the database server to find and retrieve specific rows much faster than it could do without an index. But indexes also add overhead to the database system as a whole, so they should be used sensibly.

https://www.postgresql.org/docs/10/indexes.html

1. What are store procedures?

Store procedure is a basically a set of precompiled SQL and procedural statements(declaration, assignments, loops etc) that is stored on the database server and can be invoked using the SQL interface to perform a special operation

1. Difference between remove pop and delete?

Remove() – removes the first matching value or object, not a specific indexing

Del()- removes the item at a specific index

Pop()- removes the item at specific index and returns it

1. Exception handling- try except, else and finally

Try: The code with the exception that you want to catch.If an exception raised , control flow leaves this block immediately and goes to the exception block

Except: This code is executed only if an exception was raised in the try block

Else: This code is executed only if no exception were raised in the try block. Code excecuted in this block is just like normal code:if there is an exception. Notice that if the else block is executed, then the except block is not and vice versa. This block is optional

Finally:This code always execute

1. Flask DB injection?
2. What is generator and iterator? How to access iterators? Which is faster generator or iterator?

Generator is a function which is created using ‘yeild’ statement to return the result. It’s a simple way of creating iterator. It is fairly simple to create a generator in Python. It is as easy as defining a normal function, but with a yield statement instead of a return statement.

Generator gives an easier way to create python iterator. Yield and next()

Iterator return us an iterator iterator object one value at a time, iter() and next()

1. Difference between session and cookies?

Session stores data on client as well as on server

Cookies store data on client machine only

1. What is Django Admin?

Djngo admin is a dash bord provided by django framework

1. In Python how private variables denoted?

Private variable denoted by double underscore \_\_

1. How Python works?

Python has built in compiler, which convert code into machine language and then convert into byte code

1. Difference between Programming lang. and scripting language?

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| --- | --- |
| Programming lang | Scripting lang |
| Programming language use a compiler to convert the high level language into machine language | Scripting lang use an iterpreter |
| Compiler compiles a code in a complete chunk | Interpreter compiles a code line by line |

1. In your AWS lambda(refarch web app) what was a front end?

HTML and CSS and js

1. Difference between list and tuple? How to change value of tuple element?

|  |  |
| --- | --- |
| List | Tuple |
| Mutable | Immutable |
| Consume more memory | Less memory |
| Slower than tuple | Faster |
| Better for performing insertion , deletion operation | Better for performing access elements |
| Ordered | ordered |

1. How sessions are managed in Flask?

With the help of flask session library

1. How memory is managed in Python?

<https://towardsdatascience.com/memory-management-in-python-6bea0c8aecc9>

Python memory manager manages Python’s memory allocations. There is a private heap that contains all Python objects and datastructres. Python memory manager manages the python heap on demand.

Methods and variables are created in stack memory. Stack frame is created whenever methods and variables are created, these frames are destroyed automatically when ever methods are returned.

Objects and instance variable are created in heap memory

Python has small object allocator that keeps memory allocated for further use

1. What is function based and class based views?

|  |  |
| --- | --- |
| Function based views | Class based views |
| Easy to implement | Bit complex |
| Easy to read | Code reusability- inheritance |
| Explicit code flow | Reduce duplication of code |
| Straightforward use of decorator | Code extaentability |
| Good for specialized functionality | Built in generic class based views |

1. What is shallow copy and deep copy?

Shallow copy – copy object with reference to other object

Deep copy- copy object without reference to other object

practice: https://www.programiz.com/python-programming/shallow-deep-copy

1. What is list comprehension?

Single line function

1. What is method overloading and overriding?

Method overloading- In singe class having two methods with same name but passing arguments of different data type is called method overloading

Method over riding- In two different class with inheritance. Both classes having same method name called method over riding

1. What are features of OOPS?

Inheritance

Encapsulation

Polymorphism

DRY

1. What are the types of inheritance?

Multiple

Multilevel

1. What is file structure of Flask project?
2. What is file structure of Django project?
3. What is the significance of Abstraclass and what is abstract classes?

Abstarct classes can be considered as blueprint for other classes. It allows you to create a set of methods that must be created within any child classes build from the abstract classes.

1. What are features of Python?

Python is an interpreter language

Dynamically typed

Portable

Human readable

Huge set of libraries 10k+

In build memory manager

Garbage collector

1. What are ternary operators in Python?

Conditional operators

1. What are inbuild decorators in Python

@static method and @class method

1. Program- find substring from the string?
2. Difference between high level and low level language?
3. Difference between list, tuple, dictionary and set?
4. Can I use list or tuple as a dictionary key?

Tuple elements

1. Explain OOPS – Polymorphism, Encapsulation, Abstraction, Inheritance?
2. REST and SOAP API?
3. RDBMS Vs NoSQL
4. Senarion- There is a button on web site, when I clicked its taking long time to render so I paused it and again after some time resume the process so how to implement it?
5. Senarion- I have huge data stored in memory and I want to dump it to DB so what is process to dump it fast?
6. How you secured your flask app?
7. Explain Authentication and Authorization
8. What is .pyc file? When it get created?
9. Python is interpreter language or object oriented language?
10. List are hashable or not? Not hashable
11. What is #!\bin\bash mean?
12. How memory is managed in Python?
13. Why don’t we use multithreading in Python?
14. Single and multilevel inheritance?
15. Polymorphism in Python?
16. Which library use for Authentication?
17. Django project flow explains?
18. How do you define url in Flask?
19. @app.route from where this app coming from?
20. What is \*args and \*\*kwargs?
21. How to pass values in Python?
22. Scenario- Automate the process- URL is given down load the data from url and generate CSV file.
23. Can you create method without self? What is self in class?
24. What is anonymous function?
25. In flask where to declare url?
26. How will you execute linux commands which are stored in file using Python?
27. What is pickling?
28. Data types in sql?
29. Do you know json data type in sql?
30. Difference between group by and order by
31. How do you handled exception in your project?(with the help of Logger library)
32. What is destructor?

Destructors are called when the object get destroyed. In Python ,destructors are not needed because Python has a garbage collector that handles memory management automatically . The \_\_del\_\_() method is known as destructor method in Python. Its called when all the references to the object have been deleted i.e. when object is garbage collected.

1. Assertion in Python?

Assert statement is there to compare the results

1. What is aggregation?
2. Join queries?
3. Difference between multithreading and multiprocessing?

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| --- | --- |
| Multiprocessing | Multithreading |
| In multiprocessing, CPU’s are added for increasing computing power | In multithreading many threads are created of a single process for increasing computing power |
| Many processes are executed simultaneously | Many threads of process are executed simultaneously |
| In multiprocessing every process owned a separate address space | While in multithreading a common address space is shared by all the threads |
| Process creation is a time consuming process | Process creation is according to economical |

1. How to handle js pages using selenium?

Selenium driver will handle js pages

1. Why !#\bin\bash is there as my first line in python files

Adding #!/bin/bash as the first line of your script, tells the OS to invoke the specified shell to execute the commands that follow in the script

She-bang is there to let the interactive shell know what kind of interpreter to run for the program that follows. The first line tells Unix that the file is to be executed by bin/bash.

1. Postgress vs mysql

Pgsql is a object relational database while sql is a relational database.

Pgsql has feature of table inheritance and functional overloading

1. How to copy data from s3 to dynamodb with lambda?

<https://www.youtube.com/watch?v=Y18HF5ALXew>

1. How to invoke one lambda from another AWS lambda?

<https://www.youtube.com/watch?v=Lf98s3NczBE>

1. What is association, aggregation and composition?

<https://www.infoworld.com/article/3029325/exploring-association-aggregation-and-composition-in-oop.html>

Association:

An association is a “using” relationship between two or more objects in which the objects have their own lifetime and there is no owner. Eg –dr and patient

Aggregation:

It’s a specialized form of association between two or more objects in which each object has its own life cycle but there exists an ownership as well Eg employee and department

Aggregation can involve one to one, one to many, many to one, many to many relationships.

What is middle ware in django?

How will save multiple address of user without one to many relationships

explain rest methods

decorators with example

signals in django

raltive key in model