Interview Question

TCS Interview 14-06-2021

1. What is Generators ?

Ans:

Generators is a function which returns an iterator object (list) with sequence of value instead of single value. Generator uses Yield statement instead of Return statement.

1. How to create a virtual Environment?

Ans:

1. What is the function of self-variable?

Ans:

**self** represents the instance of the class. By using the “**self**” keyword we can access the attributes and methods of the class in **python**. It binds the attributes with the given arguments

1. What is the difference between Module and Package?

**Module**: The **module** is a simple **Python** file that contains collections of functions and global variables and with having a . **py** extension file. ... **Package**: The **package** is a simple directory having collections of **modules**.

1. What is Pickling And Unpickling ?

Pickling: It is a process where a Python object hierarchy is converted into a byte stream.

Unpickling: It is the inverse of Pickling process where a byte stream is converted into an object hierarchy.

1. What is \*Args and \*\*Keywargs ?

***\*args:***used to pass a variable number of arguments to a function. It is used to pass a non-key worded, variable-length argument list.

***\*\*kwargs*** is used to pass a keyworded, variable-length argument list

1. What is the difference between List and Tuples?

| **LIST** | **TUPLE** |
| --- | --- |
| Lists are mutable | Tuples are immutable |
| Implication of iterations is Time-consuming | The implication of iterations is comparatively Faster |
| The list is better for performing operations, such as insertion and deletion. | Tuple data type is appropriate for accessing the elements |
| Lists consume more memory | Tuple consume less memory as compared to the list |
| Lists have several built-in methods | Tuple does not have many built-in methods. |
| The unexpected changes and errors are more likely to occur | In tuple, it is hard to take place. |

1. Memory Management in the python?
2. What are local and Global Variable?

variable declared outside of the function or in global scope is known as a global variable. This means that a global variable can be accessed inside or outside of the function.

A variable declared inside the function's body or in the local scope is known as a local variable

1. Is python Case sensitive ?

yes

1. \_\_init\_\_ function pyhton ?

The **\_\_**init**\_\_** method is similar to constructors in C++ and Java . Constructors are used to initialize the object's state. The task of constructors is to initialize(assign values) to the data members of the class when an object of class is created.

1. What is the sliceing ?

slicing is an operation that extracts a subset of elements from an array

1. What is range and Xrange ?

**difference** is that **range** returns a Python list object and **xrange** returns an **xrange** object. ... It means that **xrange** doesn't actually generate a static list at run-time like **range** does. It creates the values as you need them **with a** special technique called yielding

1. What are the ternary operator ?

The **Python ternary operator** lets you evaluate whether a condition is true or false.

1. How to remove value from the list ?

Remove(“element”) , pop(“index”) , del “element”[“index”]

1. How to add value for a list?

Appende() , extend() , insert()

1. What is the split method?

split() method splits a string into a list. You can specify the separator

1. Multiple Inheritances supported in python ?

Yes, A class can be derived from more than one base class in **Python**, similar to C++. This is called **multiple inheritance**.

1. Indentation required in python?

To indicate a block of code in **Python**, you must **indent** each line of the block by the same whitespace.

1. Break and continue in python ?

The continue statement is used to skip the rest of the code inside a loop for the current iteration only. Loop does not terminate but continues on with the next iteration.

If the break statement is inside a nested loop (loop inside another loop), the break statement will terminate the innermost loop.

1. Python accept negative index ?

**Python** programming language supports **negative indexing** of arrays, something which **is** not available in arrays in most other programming languages.

1. What are some python module?

A file containing **Python** code, for **example**: **example**.py , is called a **module**, and its **module** name would be **example** . We use **modules** to break down large programs into small manageable and organized files.**modules** provide reusability of code.

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1. What is Decorator in Python?

**Decorators** to modify the behaviour of function or class. **Decorators** allow us to wrap another function in order to extend the behaviour of the wrapped function, without permanently modifying it

1. Pickling and Unpickling in Python?

Pickling” is the process whereby a Python object hierarchy is converted into a byte stream, and “unpickling” is the inverse operation, whereby a byte stream (from a binary file or bytes-like object) is converted back into an object hierarchy. Pickling (and unpickling) is alternatively known as “serialization”, “marshalling,” or “flattening”;

1. Purpose of Pickling and Unpickling in Python?
2. Which module is used in extract class in Python?
3. How to add mailing features in flask ?

pip install Flask-Mail

Configuring Flask-Mail

1. What are liberaries used in python ?

Pandas : to read CSV files in python

1. File liberies in bulit- in Python ?

MAX,MIN,SORTED

1. Difference between Package and Module in Python ?

A **package is** a collection of **Python modules**: while a **module is** a single **Python** file, a **package is** a directory of **Python modules** containing an additional \_\_init\_\_.py file, to **distinguish** a **package** from a directory that just happens to contain a bunch of **Python** scripts.

1. How will differentiate package from Module in Python ?

Init file

1. Creating class with two instances ? class called bike and instances are speed and price ?
2. How to write [0 – 9] one after other in Python ?

For I in range(0,9)

1. Input L =[“A”,”B”,”C”,”D”…..”Z”]

L2 = [0,1,2,3,4,5……26]

Output: l3= [ (0,A),(1,B),(2,C)……(26,Z) ]

L3 = list(zip(l,l2)

1. Set1 = (1,2,3,4) set2 =(3,4,5,6) output set1 = (1,2) set2 =(5,6) ?

set1 = {1, 2, 3, 4}

set2 = {3, 4, 5, 6}

set3 = set1.difference(set2)

set4 = set2.difference(set1)

print(set3)

print(set4)

1. What is the difference between \*args and \*\*kewargs ?

\*args: it passes number of arguments to the function

\*\*kewargs : it passes key worded argument list to a function

1. What is operator overloading in python?

Python that allows the same operator to have different meaning according to the context is called operator overloading.

“+” = which will add the integers

“+”= concatenation in strings

1. How to capitalize first 3 letter in “Bird” ?

S = “bird”

Print(s[0:3].upper())

1. Have you used Map function in Python ?

**Python map**() applies a function on all the items of an iterator given as input.

Map(function, iterator (list,tuple,set))

Def addition(n):

Return n+n

numbers = [1,2,3,4,5,6]

Result = map(addition,numbers)

Print(list(result))

Output: [2,4,6,8,10,12]

1. What is lambda function ?

**lambda** function is a single-line function declared with no name, which can have any number of arguments, but it can only have one expression.

lambda\_cube = lambda y: y\*y\*y

print(lambda\_cube(5))

1. Which decorator is used to define the URL in flask ?

route is a **decorator used** to match **URLs** to view functions in **Flask** apps

1. How to read query parameter in API ( JSON Body ) ?
2. How to read the body in post API (Inputs) ?
3. Which are the python libraries you are aware of ?

* String
* Ittertools
* Datetime
* Pandas

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1. What is the difference between flask and Django?

|  |
| --- |
|  |

1. what library is used in python to interact Mango DB?

PyMongo

MongoDB provides an official Python driver called PyMongo

1. what is indexing in Database?

It is a data structure technique which is used to quickly locate and access the data in a database. **Indexes** are created using a few database columns

1. how index works in Background?

Indexing is a way of sorting a number of records on multiple fields. Creating an index on a field in a table creates another data structure which holds the field value, and a pointer to the record it relates to. This index structure is then sorted, allowing Binary Searches to be performed on it.

1. What is \*\*Kwargs ?

Kwargs used to pass a keyworded, variable-length argument list. A keyword argument is where you provide a name to the variable as you pass it into the function.

1. What is Lambda function in Python ?

**lambda function** is a single-line **function** declared with no name, which can have any number of arguments, but it can only have one expression.

**Lambda function** similarly to a regular **function** declared using the **Python's def** keyword

1. What is Evalu() function ?

the **eval function** evaluates the “String” like a **python** expression and returns the result as an integer.

1. What is namespace in flask?

**namespace** is from the **Flask**-RESTPlus and Blueprint is from **flask** to organize your app. the **namespaces** modules (specific to **Flask**-RESTPlus) are reusable **namespaces** designed like you would do with **Flask's** Blueprint.

1. What is WSGI in flask and what is the usage of it?

**WSGI** (Web Server Gateway Interface) is an interface between web servers and web apps for python. **mod\_wsgi** is an Apache HTTP server module that enables Apache to serve **Flask** application

1. What is the benefits of ORM (Object Relational Mapping) ?

(**ORM**) is a code library that automates the transfer of data stored in relational database tables into objects that are more commonly used in application code.

* Speeds-up Development - eliminates the need for repetitive SQL code.
* Reduces Development Time. Reduces Development Costs.
* You don't need any SQL knowledge to use an **ORM**
* **Reduce** pain for learning complex DMLs (SQL Queries)

1. How to Solve Unicode error while reading CSV file ?

read\_csv takes an encoding option to deal with files in different formats. I mostly use read\_csv('file', encoding = "ISO-8859-1"), or alternatively encoding = "utf-8" for reading, and generally utf-8 for to\_csv.

You can also use one of several alias options like 'latin' instead of 'ISO-8859-1' (see python docs, also for numerous other encodings you may encounter).

1. How to change the data type of column in pandas?

Df.coulmn

1. How to convert string to date column using pandas?
2. What is Docker ?

**Docker** is a tool designed to make it easier to create, deploy, and run applications by using containers. Containers allow a developer to package up an application with all of the parts it needs, such as libraries and other dependencies, and deploy it as one package.