**Python Interview Questions :-**

Q1. What is the difference between list and tuples in Python?

Ans :- In Python, list and tuple are a class of data structure that can store one or more objects or values.

List :- A list is used to store multiple items in one variable and can be created using square brackets.

Tuples :- tuples also can store multiple items in a single variable and can be declared using parentheses.

**List**  **Tuples**

1. Lists are mutable 1) Tuples are mutable
2. Implication of iteration is 2) Implication of iteration is Time consuming comparatively faster
3. Lists consume more memory. 3) Tuple consume less memory
4. The list is better for performing operations, 4)Tuples data types is

such as insertion and deletion. Appropriate for accessing the elements.

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Q2. What are the key features of Python?

Ans :-

* Easy to code: Python is a high-level programming language.
* Free and Open Source.
* Object-Oriented Language.
* GUI Programming Support.
* High-Level Language.
* Extensible feature.
* Python is Portable language.
* Python is Integrated language.

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Q3. What type of language is python? Programming or scripting?

Ans :- Python is scripting

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Q5. What is PEP 8?

Ans:- PEP-8 is a documents that provides guidelines and best practices on how to write python code.

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Q6. How is memory managed in python ?

Ans:- Memory Management in python involve a private heap containing all Python objects and data structures. The management of this private heap is ensured internally by the python memory manager.

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Q7. What is namespace in Python ?

Ans :- A namespace is a collection of currently defined symbolic names along with information about the object that each name reference. You can think of a namespace as a dictonary in which the keys are the object names and the values are the objects themselves.

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Q8.What is PYTHONPATH ?

Ans :-PYTHONPATH is an environment variable which you can set to add additional directories where python will look for modules and packages. For most installations, you should not set these variables since they are not needed for Python to run. Python knows where to find its standard library.

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Q9. What are python modules? Name some commonly used built-in modules in python?

Ans :- A Python module is a Python file containing a set of functions and variables to be used in an application.

OS Module.

Sys Module.

Math Module.

Statistics Module.

Collections Module.

Random Module.

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Q10. What are local variables and global variables in python?

Ans :- PythonServer Side ProgrammingProgramming. There are two types of variables: global variables and local variables. The scope of global variables is the entire program whereas the scope of local variable is limited to the function where it is defined.

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Q11. Is python case sensitive?

Ans:- Python is a case-sensitive language.

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Q12. What is type conversation in Python?

Ans:- Type Conversion is the conversion of object from one data type to another data type.Python avoids the loss of data in ImplExplicit Type Conversion is also called Type Casting, the data types of objects are converted using predefined functions by the user.

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Q13. How to install Python on Window and set path variables?

Ans :-

Right-clicking This PC and going to Properties.

Clicking on the Advanced system settings in the menu on the left.

Clicking on the Environment Variables button o​n the bottom right.

In the System variables section, selecting the Path variable and clicking on Edit.

Clicking on New and entering Python's install directory.

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Q14. Is indentation required in python?

Ans:- Yes! In the case of Python, indentation is not for styling purpose. It is rather a requirement for your code to get compiled and executed.

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Q15. What is the difference between Python Arrays and Lists?

Ans :- Arrays Lists

1) Only consists of elements belonging to the same 1) can consist of elements belonging to different data types

data types

2) Preferred for a longer sequence of data items. 2) Preferred for a shorter sequence of data items.

3) can directly handle arithmetic operations. 3) cannot directly handle arithmetic operations.

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Q16. What are functions in python?

Ans:- A function is a block of code which only runs when it is called. You can pass data, known as parameters, into a function. A function can return data as a result.

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Q17. What is \_\_init\_\_ ?

Ans:- "\_\_init\_\_" is a reseved method in python classes. It is called as a constructor in object oriented terminology. This method is called when an object is created from a class and it allows the class to initialize the attributes of the class.

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Q18. What is lambda function?

Ans:- a 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. Such a function is capable of behaving similarly to a regular function declared using the Python's def keyword.

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Q19. What is self in Python?

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.

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Q20. How does break, continue and pass work?

Ans:- Break :- The break statement is used to terminate the loop or statement in which it is present.

Continue :- Continue is also a loop control statement just like the break statement.

pass :- As the name suggests pass statement simply does nothing.

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Q21. What does [::-1} do?

Ans:- If step count is +ve then it is Forward Indexing/Slicing. Forward Indexing /Slicing means going from 0 to the last number & stop = stop -1 .

If step count is -ve then it is Reverse Indexing /Slicing. Reverse Indexing/Slicing means going from -1(last number ) to the 1st number & stop = stop + 1.

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Q22. How can you randomize the items of a list in place in Python?

Ans :- To randomly shuffle elements of lists ( list ), strings ( str ) and tuples ( tuple ) in Python, use the random module. random provides shuffle() that shuffles the original list in place, and sample() that returns a new list that is randomly shuffled. sample() can also be used for strings and tuples.

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Q23. What are python iterators?

Ans :- An iterator is an object that can be iterated upon, meaning that you can traverse through all the values. Technically, in Python, an iterator is an object which implements the iterator protocol, which consist of the methods \_\_iter\_\_() and \_\_next\_\_().

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Q24. How can you generate random numbers in Python?

Ans :- Random integer values can be generated with the randint() function. This function takes two arguments: the start and the end of the range for the generated integer values. Random integers are generated within and including the start and end of range values, specifically in the interval [start, end].

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Q25. What is the difference between range & xrange?

Ans:- range() – This returns a range object (a type of iterable).

xrange() – This function returns the generator object that can be used to display numbers only by looping. Only particular range is displayed on demand and hence called “lazy evaluation“.