Python Interview Questions and Answer PDF

1. What do you mean by Python literals?

- Literals can be defined as a data which is given in a variable or constant. Python supports the following literals: String literal and Numeric Literals

2. What are the applications of Python?

- Web and Internet Development
- Games
- Scientific and computational applications
- Language development
- Image processing and graphic design applications
- Enterprise and business applications development
- Operating systems
- GUI based desktop applications

3. What is zip() function in Python?

- Python **zip()** function returns a zip object, which maps a similar index of multiple containers.
- It takes an iterable, convert into iterator and aggregates the elements based on iterables passed. It returns an iterator of tuples.

4. What is Python's parameter passing mechanism?

There are two parameters passing mechanism in Python:

- Pass by references
- Pass by value

5. What is PEP 8?

- PEP 8 stands for Python Enhancement Proposal, it can be defined as a document that helps us to provide the guidelines on how to write the Python code.
- It is basically a set of rules that specify how to format Python code for maximum readability.

6. What are the advantages of Python?

- Python is Interpreted language
- Interpreted: Python is an interpreted language. It does not require prior compilation of code and executes instructions directly.
- It is Free and open source
- Free and open source: It is an open-source project which is publicly available to reuse. It can be downloaded free of cost

7. Types of Python Functions?

- Built-In Functions: copy(), len(), count() are the some built-in functions.
- User-defined Functions: Functions which are defined by a user known as user-defined functions.
- Anonymous functions: These functions are also known as lambda functions because they are not declared with the standard def keyword.

8. What is swapcase() function in the Python?

- It is a string's function which converts all uppercase characters into lowercase and vice versa.
- It is used to alter the existing case of the string.
- This method creates a copy of the string which contains all the characters in the swap case.

9. Explain Python Functions?

- A function is a section of the program or a block of code that is written once and can be executed whenever required in the program.
- A function is a block of self-contained statements which has a valid name, parameters list, and body.
- Functions make programming more functional and modular to perform modular tasks.

10. How to remove leading whitespaces from a string in the Python?

- To remove leading characters from a string, we can use lstrip() function.
- It is Python string function which takes an optional char type parameter.
- If a parameter is provided, it removes the character. Otherwise, it removes all the leading spaces from the string.

11. What is the use of break statement?

- The break statement is used to terminate the execution of the current loop.
- Break always breaks the current execution and transfer control to outside the current block.
- If the block is in a loop, it exits from the loop, and if the break is in a nested loop, it exits from the innermost loop.

12. Which are the file related libraries/modules in Python?

- The Python provides libraries/modules that enable you to manipulate text files and binary files on the file system. It helps to create files, update their contents, copy, and delete files. The libraries are os, os.path, and shutil.
- Here, os and os.path - modules include a function for accessing the filesystem

13. What is tuple in Python?

- A tuple is a built-in data collection type. It allows us to store values in a sequence.
- It is immutable, so no change is reflected in the original data.

- It uses () brackets rather than [] square brackets to create a tuple. We cannot remove any element but can find in the tuple

14. Why do we use join() function in Python?

- The join() is defined as a string method which returns a string value.
- It is concatenated with the elements of an iterable. It provides a flexible way to concatenate the strings. See an example below.

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16. How to remove whitespaces from a string in Python?

- To remove the whitespaces and trailing spaces from the string, Python provides strip([str]) built-in function.
- This function returns a copy of the string after removing whitespaces if present. Otherwise returns original string.

17. What is Python?

- It is a general-purpose computer programming language.
- It is a high-level, object-oriented language which can run equally on different platforms such as Windows, Linux, UNIX, and Macintosh.
- Its high-level built-in data structures, combined with dynamic typing and dynamic binding.
- It is widely used in data science, machine learning and artificial intelligence domain.

18. What is an operator in Python?

- An operator is a particular symbol which is used on some values and produces an output as a result.
- An operator works on operands. Operands are numeric literals or variables which hold some values.
- Operators can be unary, binary or ternary.

19. What are the different types of operators in Python?

Python uses a rich set of operators to perform a variety of operations. Some individual operators like membership and identity operators are not so familiar but allow to perform operations.

- Arithmetic Operators Relational Operators
- Assignment Operators
- Logical Operators
- Membership Operators

- Identity Operators
- Bitwise Operators

20. What are the different file processing modes supported by Python?

Python provides four modes to open files. The read-only (r), write-only (w), read-write (rw) and append mode (a). 'r' is used to open a file in read-only mode, 'w' is used to open a file in write-only mode, 'rw' is used to open in reading and write mode, 'a' is used to open a file in append mode. If the mode is not specified, by default file opens in read-only mode.

- Read-only mode (r): Open a file for reading. It is the default mode.
- Write-only mode (w): Open a file for writing. If the file contains data, data would be lost. Other a new file is created.
- Read-Write mode (rw): Open a file for reading, write mode. It means updating mode.
- Append mode (a): Open for writing, append to the end of the file, if the file exists.

21. Is Python interpreted language?

- Python is an interpreted language.
- The Python language program runs directly from the source code. It converts the source code into an intermediate language code, which is again translated into machine language that has to be executed.

22. What is the Python decorator?

- Decorators are very powerful and a useful tool in Python that allows the programmers to add functionality to an existing code.
- This is also called metaprogramming because a part of the program tries to modify another part of the program at compile time.
- It allows the user to wrap another function to extend the behavior of the wrapped function, without permanently modifying it.

23. What are the rules for a local and global variable in Python?

Global Variables

- Variables declared outside a function or in global space are called global variables.
- Global variables are accessible anywhere in the program, and any function can access and modify its value.

Local Variables

- Any variable declared inside a function is known as a local variable. This variable is present in the local space and not in the global space.
- Local variables are accessible within local body only.

24. How is memory managed in Python?

- Memory management in python is managed by Python private heap space. All Python objects and data structures are located in a private heap. The programmer does not have access to this private heap. The python interpreter takes care of this instead.
- The allocation of heap space for Python objects is done by Python's memory manager. The core API gives access to some tools for the programmer to code.
- Python also has an inbuilt garbage collector, which recycles all the unused memory and so that it can be made available to the heap space.

25. How to create a Unicode string in Python?

- In Python 3, the old Unicode type has replaced by "str" type, and the string is treated as Unicode by default. We can make a string in Unicode by using art.title.encode("utf-8") function.

26. What are iterators in Python?

- In Python, iterators are used to iterate a group of elements, containers like a list. Iterators are the collection of items, and it can be a list, tuple, or a dictionary. Python iterator implements __itr__ and next() method to iterate the stored elements.
- In Python, we generally use loops to iterate over the collections (list, tuple).

27. What is slicing in Python?

- Slicing is a mechanism used to select a range of items from sequence type like list, tuple, and string.
- It is beneficial and easy to get elements from a range by using slice way. It requires a : (colon) which separates the start and end index of the field.
- All the data collection types List or tuple allows us to use slicing to fetch elements.

28. What is a generator in Python?

- In Python, the generator is a way that specifies how to implement iterators.
- It is a normal function except that it yields expression in the function. It does not implements __itr__ and next() method and reduce other overheads as well.

29. What is a dictionary in Python?

- The Python dictionary is a built-in data type.
- It defines a one-to-one relationship between keys and values.
- Dictionaries contain a pair of keys and their corresponding values. It stores elements in key and value pairs.

30. What is the namespace in Python?

- A namespace is defined as a simple system to control the names in a program. It ensures that names are unique and won't lead to any conflict.
- The namespace is a fundamental idea to structure and organize the code that is more useful in large projects.