

1. What are docstrings in python?

We can comment the code in a python program to understand parts of the code. But to search for the comments and different parts of the comment we need to use the search(CTL+F) and we scroll through many lines. Also we have not the immediate way of knowing a given word being associated with how many sections of the code etc. To solve this issues, we have python Docstring which accesses the strings immediately after the definition of a function, module, class or method.

The `__doc__` attribute is automatically associated with the name of the python object when it is declared immediately after the definition of that object. Below examples that make it clear.

Declaring Docstrings: The docstrings are declared using `'''triple single quotes'''` or `"""triple double quotes"""` just below the class, method or function declaration. All functions should have a docstring.

Accessing Docstrings: The docstrings can be accessed using the `__doc__` method of the object or using the help function.

2. What is the purpose of is, not and in operators?

Operator	Description
Is	It is identity operators and its meaning is true if the operands are identical.
In	It is membership operators and its meaning is true if value/variable is found in the sequence i.e. the 'in' operator is used to check if a value exists in a sequence or not and it evaluates to true if it finds a variable in the specified sequence otherwise false.
not	Logical NOT: True if the operand is false

3. What is the usage of help() and dir() function in Python?

`help()` and `dir()` both functions are accessible from the Python interpreter and used for viewing a consolidated dump of built-in functions.

help() function: The help() function is used to display the documentation string and also facilitates you to see the help related to modules, keywords, attributes, etc.

Utilization Of Python Help() Function

The name of the help function evidently describes its usage in python. It is also called built-in python help system. This method works for the correlative use. This function returns the assistance that linked to the python module, object, and method but if it called with the approachable argument. On the other hand, without argument, it will return the help associated with presently running program module. When you initiate recent python interpret, just write help() and press the enter button. It will quickly present the python help() usefulness. Users just have to enter the name of any keyword, topic or module to attain the help on writing python program and to quit or return to the interpreter, just type quit.

Help() Syntax: help(object)

dir() function: The dir() function is used to display the defined symbols.

Utilization OF Dir() Function In Python

There are two key functions of python built-in function and users define a function. Dir() is the powerful inbuilt function in python that returns a list of valid methods and ascribe of any objects including modules, lists, strings, and others. It does not behave similarly with each object. It also doesn't focus on complete information but surely aims to assemble the most applicable one.

Dir() Syntax: dir({ object})

4. Whenever Python exits, why isn't all the memory de-allocated?

Using 'del' keyword we can try to remove some particular object. But Python is a 'garbage collector' that means there is no guarantee that the object is actually removed from the memory when you use 'Del some Big Object'. In fact 'Del some Big Object' is not only pointless but also it is a bad style.

According to 'Python official documentation' you can force the garbage collector to release referring memory with gc.collect(). It is known, where Python will definitely leak memory when you declare circular references in your object declarations and implement a custom __del__ destructor method

in one of these classes. When Python exit, the object referenced from global namespaces of Python modules are not always deallocated. So, Python doesn't recognize and free circular memory references before using the garbage collector.

5. What is a dictionary in Python?

Dictionary in Python is an unordered collection of data values, used to store data values like a map, which, unlike other Data Types that hold only a single value as an element, Dictionary holds key:value pair. Key-value is provided in the dictionary to make it more optimized.

Each key is separated from its value by a colon (:), the items are separated by commas, and the whole thing is enclosed in curly braces. An empty dictionary without any items is written with just two curly braces, like this: {}.

Keys are unique within a dictionary while values may not be. The values of a dictionary can be of any type, but the keys must be of an immutable data type such as strings, numbers, or tuples.

6. How can files be deleted in Python?

There are multiple ways to Delete a File in Python but the best ways are the following:

`os.remove()` removes a file.

`os.unlink()` removes a file. it is a Unix name of `remove()` method.

`shutil.rmtree()` deletes a directory and all its contents.

`pathlib.Path.unlink()` deletes a single file The `pathlib` module is available in Python 3.4 and above.