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| |  |  |  | | --- | --- | --- | | |  | | --- | | Python interview questions and answers | | [**Part 1**](http://www.careerride.com/python-interview-questions.aspx)[**Part 2**](http://www.careerride.com/python-interview-questions-2.aspx)[**Part 3**](http://www.careerride.com/python-interview-questions-3.aspx)[**Part 4**](http://www.careerride.com/python-interview-questions-4.aspx)[**Part 5**](http://www.careerride.com/python-interview-questions-5.aspx)  ***Python interview questions - June 11, 2010 at 15:30 PM***  **1.**[**What is Python? State some programming language features of Python.**](http://www.careerride.com/python-features.aspx)  Python is a modern powerful interpreted language with objects, modules, threads, exceptions, and automatic memory managements................. [**Read answer**](http://www.careerride.com/python-features.aspx)  **2.**[**Explain how python is interpreted.**](http://www.careerride.com/python-how-it-is-interpreted.aspx)  Python program runs directly from the source code. Each type Python programs are executed code is required................. [**Read answer**](http://www.careerride.com/python-how-it-is-interpreted.aspx)  **3.**[**What are the rules for local and global variables in Python?**](http://www.careerride.com/python-rules-for-local-and-global-variables.aspx)  If a variable is defined outside function then it is implicitly **global**. If variable is assigned new value inside the function means it is**local**................ [**Read answer**](http://www.careerride.com/python-rules-for-local-and-global-variables.aspx)  **4.**[**Explain the dictionary in Python.**](http://www.careerride.com/python-dictionary.aspx)  Python's built-in data type is dictionary, which defines one-to-one relationships between keys and values................ [**Read answer**](http://www.careerride.com/python-dictionary.aspx)  **5.**[**How do we share global variables across modules in Python?**](http://www.careerride.com/python-global-variables.aspx)  We can create a config file & store the entire global variable to be shared across modules or script in it. By simply importing config, the entire global variable defined it will be available for use in other modules.............. [**Read answer**](http://www.careerride.com/python-global-variables.aspx)  **6.**[**How can we pass optional or keyword parameters from one function to another in Python?**](http://www.careerride.com/python-pass-optional-or-keyword-parameters.aspx)  Gather the arguments using the \* and \*\* specifiers in the function's parameter list. This gives us positional arguments as a tuple and the keyword arguments as a dictionary.............. [**Read answer**](http://www.careerride.com/python-pass-optional-or-keyword-parameters.aspx)  **7.**[**Explain indexing and slicing operation in sequences**](http://www.careerride.com/python-indexing-and-slicing-operation.aspx)  Different types of sequences in python are strings, Unicode strings, lists, tuples, buffers, and xrange objects............ [**Read answer**](http://www.careerride.com/python-indexing-and-slicing-operation.aspx)  **8.**[**What is a Lambda form? Explain about assert statement?**](http://www.careerride.com/python-lambda-form-and-assert-statement.aspx)  The lambda form: Using lambda keyword tiny anonymous functions can be created............. [**Read answer**](http://www.careerride.com/python-lambda-form-and-assert-statement.aspx)  **9.**[**Explain the role of repr function.**](http://www.careerride.com/python-role-of-repr-function.aspx)  Python can convert any value to a string by making use of two functions repr() or str(). The str() function returns representations of values which are human-readable, while repr() generates representations which can be read by the interpreter................. [**Read answer**](http://www.careerride.com/python-role-of-repr-function.aspx)  **10.**[**Explain pickling and unpickling.**](http://www.careerride.com/python-pickling-and-unpickling.aspx)  pickle is a standard module which serializes & de-serializes a python object structure................ [**Read answer**](http://www.careerride.com/python-pickling-and-unpickling.aspx)  **11.**[**What is LIST comprehensions features of Python used for?**](http://www.careerride.com/python-LIST-comprehensions-features.aspx)  LIST comprehensions features were introduced in Python version 2.0, it creates a new list based on existing list............... [**Read answer**](http://www.careerride.com/python-LIST-comprehensions-features.aspx)  **12.**[**How is memory managed in python?**](http://www.careerride.com/python-memory-management.aspx)  Memory management in Python involves a private heap containing all Python objects and data structures. Interpreter takes care of Python heap and that the programmer has no access to it.............. [**Read answer**](http://www.careerride.com/python-memory-management.aspx)  **13.**[**How do you make a higher order function in Python?**](http://www.careerride.com/python-make-higher-order-function.aspx)  A higher-order function accepts one or more functions as input and returns a new function. Sometimes it is required to use function as data................ [**Read answer**](http://www.careerride.com/python-make-higher-order-function.aspx)  **14.**[**Explain how to copy an object in Python.**](http://www.careerride.com/python-how-to-copy-object.aspx)  There are two ways in which objects can be copied in python. Shallow copy & Deep copy............... [**Read answer**](http://www.careerride.com/python-how-to-copy-object.aspx)  **15.**[**How can I find the methods or attributes of an object in python?**](http://www.careerride.com/python-find-methods-or-attributes-of-object.aspx)  Built-in dir() function of Python ,on an instance shows the instance variables as well as the methods and class attributes defined by the instance's class and all its base classes alphabetically. So by any object as argument to dir() we can find all the methods & attributes of the object’s class................ [**Read answer**](http://www.careerride.com/python-find-methods-or-attributes-of-object.aspx)  **16.**[**How do I convert a string to a number?**](http://www.careerride.com/python-convert-string-to-number.aspx)  Python contains several built-in functions to convert values from one data type to another data type............ [**Read answer**](http://www.careerride.com/python-convert-string-to-number.aspx)  **17.**[**What is a negative index in python?**](http://www.careerride.com/python-negative-index.aspx)  Python arrays & list items can be accessed with positive or negative numbers (also known as index)................ [**Read answer**](http://www.careerride.com/python-negative-index.aspx)  **18.**[**How do you make an array in Python?**](http://www.careerride.com/python-array.aspx)  The array module contains methods for creating arrays of fixed types with homogeneous data types. Arrays are slower then list.............. [**Read answer**](http://www.careerride.com/python-array.aspx)  **19.**[**Explain how to create a multidimensional list.**](http://www.careerride.com/python-how-to-create-a-multidimensional-list.aspx)  There are two ways in which Multidimensional list can be created: By direct initializing the list as shown below to create multidimlist below............. [**Read answer**](http://www.careerride.com/python-how-to-create-a-multidimensional-list.aspx)  **20.**[**Explain how to overload constructors (or methods) in Python.**](http://www.careerride.com/python-how-to-overload-constructors.aspx)  \_init\_\_ () is a first method defined in a class. when an instance of a class is created, python calls \_\_init\_\_() to initialize the attribute of the object................ [**Read answer**](http://www.careerride.com/python-how-to-overload-constructors.aspx)  **21.**[**Describe how to send mail from a Python script.**](http://www.careerride.com/python-send-mail.aspx)  The smtplib module defines an SMTP client session object that can be used to send mail to any Internet machine................. [**Read answer**](http://www.careerride.com/python-send-mail.aspx)  **22.**[**Describe how to generate random numbers in Python.**](http://www.careerride.com/python-generate-random-numbers.aspx)  Thee standard module random implements a random number generator.  There are also many other in this module, such as:............... [**Read answer**](http://www.careerride.com/python-generate-random-numbers.aspx)  **23.**[**How do we make python scripts executable?**](http://www.careerride.com/python-scripts-executable.aspx)  Python scripts can be executed in two ways: Suppose I want to execute script1.py We can open the script1.py in IDE editor & run the script in the frontmost window of the python IDE by hitting the run all button............... [**Read answer**](http://www.careerride.com/python-scripts-executable.aspx)  **24.**[**Explain how to make Forms in python.**](http://www.careerride.com/python-how-to-make-forms.aspx)  As python is scripting language forms processing is done by Python. We need to import cgi module to access form fields using FieldStorage class................. [**Read answer**](http://www.careerride.com/python-how-to-make-forms.aspx)  **25.**[**Describe how to implement Cookies for Web python.**](http://www.careerride.com/python-how-to-implement-cookies.aspx)  A cookie is an arbitrary string of characters that uniquely identify a session. Each cookie is specific to one Web site and one user................ [**Read answer**](http://www.careerride.com/python-how-to-implement-cookies.aspx)  **26.**[**Describe how to use Sessions for Web python.**](http://www.careerride.com/python-how-to-use-sessions.aspx)  Sessions are the server side version of cookies. While a cookie preserves state at the client side, sessions preserves state at server side.............. [**Read answer**](http://www.careerride.com/python-how-to-use-sessions.aspx)  **27.**[**Describe how exceptions are handled in python.**](http://www.careerride.com/python-how-exceptions-are-handled.aspx)  Errors detected during execution of program are called **exceptions**. Exceptions can be handled using the try..except statement. We basically put our usual statements within the try-block and put all our error handlers in the except-block............... [**Read answer**](http://www.careerride.com/python-how-exceptions-are-handled.aspx)  **28.**[**What is used to create Unicode string in Python?**](http://www.careerride.com/python-unicode-string.aspx)  Unicode is a system to represent characters from all the world's different languages. Two methods can be used to create unicode string:................. [**Read answer**](http://www.careerride.com/python-unicode-string.aspx)  **29.**[**When to use list vs. tuple vs. dictionary vs. set?**](http://www.careerride.com/python-list-vs-tuple-vs-dictionary-vs-set.aspx)  List is like array, it can be used to store homogeneous as well as heterogeneous data type (It can store same data type as well as different data type)............ [**Read answer**](http://www.careerride.com/python-list-vs-tuple-vs-dictionary-vs-set.aspx) | | |

**Define self?**

'self' is a conventional name of method’s first argument. A method which is defined as meth(self, x ,y ,z) is called as a.meth(x, y, z) for an instance of a class in which definition occurs and  is called as meth(a, x ,y, z).

2. Name a module that is not included in python by default

[mechanize](http://wwwsearch.sourceforge.net/mechanize/)  
[django](https://www.djangoproject.com/)  
[gtk](http://www.pygtk.org/)

A lot of other can be found at [pypi](http://pypi.python.org/pypi).

3. What is \_\_init\_\_.py used for?

It declares that the given directory is a  package. #[Python Docs](http://docs.python.org/tutorial/modules.html#packages)(From [Endophage](http://dlawrence.net/)‘s comment)

4. When is pass used for?

pass does nothing. It is used for completing the code where we need something. For eg:

|  |  |
| --- | --- |
| 1  2 | class abc():      pass |

5. What is a docstring?

[docstring](http://www.python.org/dev/peps/pep-0257/) is the documentation string for a function. It can be accessed by

function\_name.\_\_doc\_\_

it is declared as:

|  |  |
| --- | --- |
| 1  2 | def function\_name():  """your docstring""" |

Writing documentation for your progams is a good habit and makes the code more understandable and reusable.

6. What is [list comprehension](http://www.python.org/dev/peps/pep-0202/)?

Creating a list by doing some operation over data that can be accessed using an iterator. For eg:

|  |  |
| --- | --- |
| 1  2  3 | >>>[ord(i) for i in string.ascii\_uppercase]       [65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90]   >>> |

7. What is [map](http://docs.python.org/library/functions.html#map)?

[map](http://docs.python.org/library/functions.html#map) executes the function given as the first argument on all the elements of the iterable given as the second argument. If the function given takes in more than 1 arguments, then many iterables are given.  #Follow the[link](http://docs.python.org/library/functions.html#map) to know more similar functions  
For eg:

|  |  |  |
| --- | --- | --- |
| 1  2  3  4  5 | >>>a='ayush'  >>>map(ord,a)  ....  [97, 121, 117, 115, 104]  >>> print map(lambda x, y: x\*y\*\*2, [1, 2, 3], [2, 4, 1])  ....  [4, 32, 3] | |
|  | |  | |

#Python Docs

8. What is the difference between a tuple and a list?

A[tuple](http://docs.python.org/library/functions.html#tuple) is immutable i.e. can not be changed. It can be operated on only. But a [list](http://docs.python.org/library/functions.html#list) is mutable. Changes can be done internally to it.

tuple initialization: a = (2,4,5)  
list initialization: a = [2,4,5]