Python interview questions

<https://www.youtube.com/watch?v=VXNuM-enB3A>

<https://www.youtube.com/watch?v=uuhi830wOzs>

<https://docs.google.com/document/d/1hJysSsvGYEMYx5p_hDNEaT_8lijfi0ZTVb9hq6ynwnI/edit>

Versions of Python

Python - Object oriented, High level, Interpreted, Dynamically typed

Python 2 vs Python 3

Advantage of Python

Java/C vs Python

Is Data type required while declaring a variable in Python?

Is semicolon required in Python

How to print in python

How to know the type of a variable in Python

Can the data type of variables be changed in Python and Java?

Is Python compiled or interpreted?

Is Python a case sensitive language?

How to take input from the user? What is the data type of the value taken as input from the user? How to change this data type?

Type conversion

What are some inbuilt functions in Python?

Math module

Can we write customized name for modules

Ways to use strings in python?

Escape character

How to join 2 strings

How to print a variable/string multiple times?

Is there a char data type in Python?

How to give a new line in Python?

Raw string

How to determine the address of a variable? Can 2 variables have the same address?

Data types? How to make a number complex?

Numeric values for True and False?

How to write lengthy strings spanning over multiple lines?

Fetching particular character from a string

Fetching range of characters from a string

Formatted string

Methods of strings : length, case, finding an element, replacement, existence,

How to make a new line in Python? How to avoid it?

How to fetch the previous output value?

Declaring list

Fetching elements from a list

Adding extra elements to a list

merging 2 lists

Can lists in Python contain values of different types?

removing element from list

Slicing, skipping values while slicing

How to change the value of an element in a list?

Removing last element from a list

Inserting an element in a list at a particular index

Emptying a list

Fetching a value from a list at a particular index

How to change an element in the list?

Find the number of occurrences of an element in a list

Finding index of an element in a list

Sorting a list

Reversing a list

Replica of a list

Printing list, printing 2 lists,

Find length of a list

2D List

If else

Comparison operators, Logical operators

To check if a character/characters is present in a String or not

Lists equal mathematically, logically

While

for loop, using range in for loop

Break pass continue

What are tuples? How to create tuples?

Unpacking, Does unpacking work with lists?

Advantage of Tuple over List?

Range : What is range?, Is range mutable?, forms of range?, arguments for range

Dictionary : How to create a dictionary?, can a dictionary have duplicate keys?, how to fetch a value from a corresponding key?,

split() method

Defining function, Passing multiple parameters, Positional and keyword arguments, Return statements in functions, Passing multiple params in function

Function decorators

Exception handling, exit code, exception names, finally block, multiple except blocks, Nested blocks

Comments in Python

Classes and Objects : How to declare class, defining functions in class, creating an instance of class, variables, magic methods, attributes of objects, what is the self keyword?

Constructors : Purpose, when is a constructor called?, how to declare a constructor?, Destructors, Can we pass a parameter to a constructor?,

Inheritance, what if we use pass keyword in a class?, single level inheritance, multi level inheritance, Multiple inheritance or multilevel inheritance in Python?, constructor inheritance, What happens if constructor is not defined in subclass and what if it is defined in the subclass? What if we want to call the constructor of both the subclass and superclass? Can we call superclass method from child class?, How to create a class variable?,

Types of methods : instance, static and class method, kinds of instance methods, how to work with instance and class variables,

Inner class, Declaring inner class, places where we can instantiate inner class

Polymorphism : Kinds of polymorphism

Module, ways of importing modules, can we import only a single module at a time or even multiple modules?, alias name for modules, which folder do modules get saved in? How to reload a module?, How to find list of functions in a module?, How to check if a module has been executed directly or indirectly?,

Package, which file to create to treat a directory as a package, ways to import functions or modules from packages?

Generating random number, How to generate random numbers in a specific range, How to choose a random element from a list,

Working with Paths : Module to use, Referencing a path, What if we do not pass an argument to Path() method, how to check if a directory exists or not, How to create a directory?, How to remove a directory?, how to search files and directories?,

File handling : how to read a file?, How to read only a line of a file? How to read only a part of the line?, How to write to a file?, How to append to a file?, How to read and write character/binary data?,

Linear search, Binary Search

Why do we need Multithreading?, CPU Cores?, How to implement multithreading?, How to check current thread?, Ways to create thread

Python by Durga

<https://docs.google.com/document/d/1hRU0-CyGYL4E-6OaucDG79xESkDAkYrhIUp-ZGRxEoc/edit>

Immutable data types, What is immutability?, uptill what value is the feature of reusing int data type object available, Which data types are not reusable,

bytes data type, bytes vs bytearray,

Features of list?, Are heterogenous objects allowed in a list?, Is it allowed to insert None in a list?,

Input Output : Which function to use to accept input from keyboard?, How to enter multiple values on the same line?, eval function, which format of data is not allowed as argument to eval, data type of eval

Command Line Arguments, which package to import, which variable to use and data type of this variable?, How to pass a full name of a person in command line argument, how to add 2 command line arguments?,

Forms of print, **sep**, **end**, formatted string

Replacement operator, ways of using replacement operator

del keyword, can we delete a character of a string?, can we delete 2 variables at a time?, del vs none

Eval function, evaluating expression using eval, taking inputs using eval,

+ and , in print function

String concatenation and repetition

Operators : concatenation and repetition

in and not in operator

How to find the number of occurrences of a substring in a given string

Split function

How to join elements in a list

Case functions in string

How to count the occurrences of an element in a list

How to compare list

is vs == operator

List comprehension

Creating a tuple, How to sort a tuple?,

Packing and unpacking,

Sets : what is a set?, indexing in a set, how to represent a set?, is set mutable?, adding an element to a set, removing an element from a set, Frozen Set, How to create a frozenset?, How can we convert a data type to a set?, How to create an empty set?, how to update a set?, can we update a set with multiple objects simultaneously?, can we add multiple objects to a set simultaneously? What objects can be passed as an argument in the update function?, How to create a set from another object?, How to create an empty set?, How to create a copy of the set?, How to remove a random element from a set?, How to remove a particular element from a set?, discard() function in set?, How to remove all elements from a set at once?,

Union, intersect, difference of 2 sets,

Can a dictionary have heterogeneous keys, updating dictionary, deleting elements from a dictionary, How to delete all the elements from a dictionary?, Can we delete a dictionary using del keyword?, How to specify multiple values for a single key?, How to determine the number of elements in a dictionary?, To remove a particular element for a dictionary?, How to retrieve all the keys of a dictionary?, How to retrieve all the values of a dictionary?, Can we merge dictionaries?,

Sorting dictionary based on value

<https://stackoverflow.com/questions/20577840/python-dictionary-sorting-in-descending-order-based-on-values/41866830>

Can python function return multiple values?,

Positional, keyword arguments,

Recursive function, Lambda function,

Function decorator

Reloading a module,

Exception handling

Pickling and Unpickling, Which module to import?, which functions to use?, ways of opening a file,

Types of variables, purpose of instance variables, Where all can instance variables be declared?, How can we remove an instance variable from an object?, Static variable, Where can we declare static variables and how can we access them?,

Regular expressions : Which module to import, Which functions to use, character classes,

Multithreading, How to create threads, how to get name of the currently executing thread?, How to set name of a thread?,

os module and its uses?, How to know the current working directory?, How to create a directory?, How to create a subdirectory within a subdirectory?, How to create multiple subdirectories one within the other?, How to remove a directory?, How to remove multiple directories?, How to rename a directory?, How to know the contents of a directory and subdirectory?, How to execute other programs from python?,

Python database programming

Cloning,

generators

Python logging

<https://towardsdatascience.com/3-ways-to-visualize-loop-progress-in-python-7eea7dfa512a>

PyPI

**Python automation, Excel, Openpyxl, XML, pdf**

<https://docs.google.com/document/d/1tv3BaYsdre3YfdHfcY-G7RESGjo0h75Gsl421jrFf5I/edit>

Package for working with excel spreadsheets, How to load excel workbook, How to access worksheet?, How to access a desired cell in the excel spreadsheet?, How to find the number of rows in a spreadsheet?, How to access the value of a cell?, How to save an excel spreadsheet?,

Working with XML file using Python, Working with PDF file using Python

Exit command

**Machine Learning Revision**

<https://docs.google.com/document/d/1dwVVZn40-dcwl2_A75tV2mtjygENj16anphP7aRla0Y/edit>

**Python answers**

Java/C vs Python : In C and Java, we have to declare the type of variables i.e. C and Java are statically typed programming languages. But in Python, there is no need to declare the type of variables. If we use the keywords **int**, **float**, **boolean** etc in Python, the compiler will give an error. Based on the value that is provided to a variable, Python compiler will internally decide the type of the variable. Semicolon is not required in Python.