

## Python Interview Questions

Python programming language has become popular with desktop application development. It has become a must skill set on most of the companies' requirements in a developer. Python programming language has become popular with machine learning community and is a basic need skill for data scientist/machine-learning developer/deep-learning developer. This article helps you through most of the upto date possible Python interview questions; and covers basic, intermediate and advanced Python interview questions. Example programs and references are provided whenever possible.

- [Entry Level – Python Interview Question](#)
- [Medium Level – Python Interview Question](#)
- [Advanced Level – Python Interview Question](#)

### Python Interview Questions – Entry Level

#### What kind of language is Python ?

Python is :

- **Interpreted** (most of its implementations execute instructions directly, without previously compiling a program into machine level instructions)
- **High-level programming language** (provides strong abstraction from internal details of computer; and is human readable)
- **General-purpose programming language** (the language could be used to write wide variety of applications)

#### Why is Python called scripting language ?

Python supports scripts: programs written for a Python run-time environment that automate the execution of tasks. These tasks could alternatively be executed one-by-one by a user.

#### What are the benefits of Python ?

There are many benefits in using Python language. Some of them are :

- Syntax of Python is easy to learn.
- Python is a high-level programming language. So, it provides a good human readability.
- Python is cross-platform. Scripts written on an operating system could be run on another with ease.
- Python has an active community. Many resources and help is available online.
- Python is extensible. Large variety of third-party modules are available.
- Python is free. Python programming language can be used for projects without any cost.

#### Give a simple example for Python script.

A simple example where a variable is initialized and printed to the console.

```
sample.py
```

```
i=10
print(i)
```

## How to execute a Python Script ?

If python is installed on the machine, command prompt or shell could be used for executing python scripts with **python** command.

Command Prompt / Terminal

```
python fileName.py
```

## What is Python Shell ?

Python Shell is an interactive command line interface. Python statements can be executed using Python Shell.

## How do you start Python shell ?

**python** command will start python shell.

Python Shell

```
$ python
Python 3.5.2 (v3.5.2:4def2a2901a5, Jun 25 2016, 22:18:55) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

## What is the command to get Python Version ?

Python Version is displayed when Python Shell is started. Otherwise, without starting Python Shell `python --version` command can be used.

Python Version

```
$ python --version
Python 3.5.2
```

## Which coding convention is preferred for Python ?

[PEP-8](#) is the style guide recommended by Python Organization.

## What are the datatypes available in Python ?

Following are the in-built datatypes in Python programming :

- Boolean
- Numeric
  - int
  - float
  - long
  - complex
- Sequence
  - String

- List
- Tuple
- Set
- Mapping
  - Dictionary

## Which conditional statements are available in Python ?

Conditional statements are the programming statements which alter the course of execution based on a condition.

Like other functional programming languages, Python has following conditional statements.

- Python If
- Python If-Else
- Python For
- Python While

Conditional Statements are also called Control Statements.

## Which looping statements are available in Python ?

Looping statements are those which repeat the execution of a set of statements in a cyclic manner based on a condition.

- Python For
- Python While

## What is the syntax for Python If statement ?

Python If statement contains if keyword, condition followed by colon symbol (:), and then the statements of if block with indentation.

### Python If Syntax

```
if condition:
    statement1
    statement2
    statementN
```

Condition should evaluate to a boolean value (true or false).

## What is the syntax for Python For loop ?

### Python For Loop Syntax

```
for variable in sequence:
    statement1
    statement2
    statementN
```

- **for** is keyword

- **sequence** can be a list, string, tuple or range
- for iteration, the *i*th element of **sequence** is loaded to **variable**
- statements have to be written with indentation

## Give an example of Python Tuple ?

Tuples are used to store values of different datatypes.

### Tuple Examples

```
tuple1 = ('Sarath', 'Varma', 1997, 'Kochi')
tuple2 = (1, 2, 3, 4, 5)
```

Elements are separated by comma and are enclosed in parenthesis.

## How do you access elements of Tuple ?

Like in an Array, elements of Tuple can be accessed using index. Index of first element is 0, and index of last element in the tuple is (length of tuple – 1).

## How are comments written in Python code ?

Single Line Comments start with # followed by comment content.

Multiple Line Comments are enclosed between triple single quotes or triple double quotes.

### Python Comments

```
# single line comment
```

```
'''Multipl  
Line  
Comment'''
```

```
"""Another  
Multiple line  
comment"""
```

Comments improve the readability of a program.

## Give an example of Python Class.

Following is an example of Python Class.

### Python class example

```
class Student:
    'Common base class for all students'

    def __init__(self, name, rollNumber):
        self.name = name
        self.rollNumber = rollNumber

    def displayStudent(self):
        print "Name : ", self.name, ", Roll Number: ", self.rollNumber
```

The Student class contains a constructor for setting the initial state and a method to display student information.

## Python 2.x or 3.x. Which one would you choose and why ?

Python 2.x is legacy, Python 3.x is the present and future of the language.

## How do you declare a variable in Python ?

How do you convert float, int, complex value, tuple, list or dictionary to a string ? `str()` function can be used to convert other data type value to string. `str()` accepts float, int, complex value, tuple, list or dictionary as an argument and returns string value.

## What are the mutable builtin datatypes available ?

Mutable datatype are those

- List
- Sets
- Dictionaries

## What are the immutable builtin datatypes available ?

Immutable datatypes are those

- Strings
- Tuples
- Numbers

## How to find substring of a string ?

`str[start_index:end_index]` returns substring of a string, where

- `str` is the main string
- `start_index` is position of substring from which it starts in main string. If not provided, default value is 0.
- `end_index` is the ending index of substring in the main string. If not provided, default value is length of the main string.

## How to you initialize an array ?

To initialize an array in Python use assignment operator (`=`) with values separated by comma and enclosed between square brackets.

Array Initialization

```
arr1 = [10, 20, 30, 40, 50]
```

Elements of the array can be accessed using index.

```
arr1[0];  
arr1[2];  
arr1[1:]
```

## Give an example to iterate through all the elements in an array.

For loop can be used to iterate through each element of array.

Iterate through elements of array

```
arr1 = [10, 20, 30, 40, 50]
```

```
for i in arr1:  
    print(i);
```

## How to find size of a Python Array ?

len() function can be used to find size of Python array, given the dimension.

```
arr1 = [{10, 20, 30, 40, 50},{10, 20, 30, 40, 50}]
```

```
print(len(arr1))  
print(len(arr1[0]))
```

## What is Frozen Set in Python ?

Frozen set is an immutable version of a Python Set object.

### Python Programming

☐ [Python Tutorial](#)

### Get Started

☐ [Install Python](#)

☐ [Install Anaconda Python](#)

☐ [Python HelloWorld Program](#)

☐ [Python Variables](#)

☐ [Python Variable Data Type Conversion](#)

☐ [Python Comments](#)

### Control Statements

☐ [Python If](#)

☐ [Python If Else](#)

☐ [Python While Loop](#)

☐ [Python For Loop](#)

### Functions

☐ [Python Functions](#)

### Advanced

☐ [Python Multithreading](#)

### Useful Resources

☐ [Python Interview Questions](#)