PYTHON INTERVIEW QUESTIONS

### ****Q1. What type of language is python? Programming or scripting?****

***Ans:***Python is capable of scripting, but in general sense, it is considered as a general-purpose programming language. To know more about Scripting, you can refer to the [Python Scripting Tutorial](https://youtu.be/9F6zAuYtuFw).

**Q2. What are the benefits of using Python?**

***Ans:***The benefits of using python are-

* 1. **Easy to use**– Python is a high-level programming language that is easy to use, read, write and learn.
  2. **Interpreted language**– Since python is interpreted language, it executes the code line by line and stops if an error occurs in any line.
  3. **Dynamically typed**– the developer does not assign data types to variables at the time of coding. It automatically gets assigned during execution.
  4. **Free and open source**– Python is free to use and distribute. It is open source.

**Extensive support for libraries**– Python has vast libraries that contain almost any function needed. It also further provides the facility to import other packages using Python Package Manager(pip).

* 1. **Portable**– Python programs can run on any platform without requiring any change.
  2. The data structures used in python are user friendly.
  3. It provides more functionality with less coding.

**Q3.What are the common built-in data types in Python?**

***Ans:*** The common built in data types in python are-

* + **Numbers**– They include integers, floating point numbers, and complex numbers. eg. 1, 7.9,3+4i
  + **List**– An ordered sequence of items is called a list. The elements of a list may belong to different data types. Eg. [5,’market’,2.4]
  + **Tuple**– It is also an ordered sequence of elements. Unlike lists , tuples are immutable, which means they can’t be changed. Eg. (3,’tool’,1)
  + **String**– A sequence of characters is called a string. They are declared within single or double quotes. Eg. “Sana”, ‘She is going to the market’, etc.
  + **Set**– Sets are a collection of unique items that are not in order. Eg. {7,6,8}
  + **Dictionary**– A dictionary stores values in key and value pairs where each value can be accessed through its key. The order of items is not important. Eg. {1:’apple’,2:’mango}
  + **Boolean**– There are 2 boolean values- **True** and **False**

**Q4. What are the new features added in Python 3.9.0.0 version?**

***Ans:***The new features in Python 3.9.0.0 version are-

* New Dictionary functions Merge(|) and Update(|=)
* New String Methods to Remove Prefixes and Suffixes

### ****Type Hinting Generics in Standard Collections****

* New Parser based on PEG rather than LL1
* New modules like zoneinfo and graphlib

## **Improved Modules like ast, asyncio, etc.**

## **Optimizations such as optimized idiom for assignment, signal handling, optimized python built ins, etc.**

* Deprecated functions and commands such as deprecated parser and symbol modules, deprecated functions, etc.
* Removal of erroneous methods, functions, etc

### ****Q5. What are functions in Python?****

***Ans:***A function is a block of code which is executed only when it is called. To define a [Python function](https://www.edureka.co/blog/python-functions), the **def** keyword is used.

**Example:**

|  |  |
| --- | --- |
| 1  2  3 | **def** Newfunc():  print("Hi, Welcome to Edureka")  Newfunc(); #calling the function |

**Output:**Hi, Welcome to Edureka

### ****Q6. What are python iterators?****

***Ans:***Iterators are objects which can be traversed though or iterated upon.

**Q7. What does len() do?**

***Ans:***It is used to determine the length of a string, a list, an array, etc.

**Example:**

|  |  |
| --- | --- |
| 1  2 | stg**=**'ABCD'  len(stg) |

**Output**:4

**Q8. Explain split(), sub(), subn() methods of “re” module in Python.**

**Ans:** To modify the strings, Python’s “re” module is providing 3 methods. They are:

* **split()** – uses a regex pattern to “split” a given string into a list.
* **sub()** – finds all substrings where the regex pattern matches and then replace them with a different string
* **subn()** – it is similar to sub() and also returns the new string along with the no. of replacements.

### ****Q9. How can files be deleted in Python?****

***Ans:***To delete a file in Python, you need to import the OS Module. After that, you need to use the os.remove() function.

**Example:**

|  |  |
| --- | --- |
| 1  2 | **import** os  os.remove("xyz.txt") |

**Q10. What are the built-in types of python?**

***Ans:***Built-in types in Python are as follows –

* Integers
* Floating-point
* Complex numbers
* Strings
* Boolean
* Built-in functions

### Q11. ****How to add values to a python array?****

***Ans:***Elements can be added to an array using the **append()**, **extend()** and the **insert (i,x)** functions.

**Example:**

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7 | a**=**arr.array('d', [1.1 , 2.1 ,3.1] )  a.append(3.4)  print(a)  a.extend([4.5,6.3,6.8])  print(a)  a.insert(2,3.8)  print(a) |

**Output:**

array(‘d’, [1.1, 2.1, 3.1, 3.4])

array(‘d’, [1.1, 2.1, 3.1, 3.4, 4.5, 6.3, 6.8])

array(‘d’, [1.1, 2.1, 3.8, 3.1, 3.4, 4.5, 6.3, 6.8])

### ****Q12.  How to remove values to a python array?****

***Ans:***Array elements can be removed using **pop()** or **remove()** method. The difference between these two functions is that the former returns the deleted value whereas the latter does not.

**Example:**

|  |  |
| --- | --- |
| 1  2  3  4  5 | a**=**arr.array('d', [1.1, 2.2, 3.8, 3.1, 3.7, 1.2, 4.6])  print(a.pop())  print(a.pop(3))  a.remove(1.1)  print(a) |

**Output:**

4.6

3.1

### ****Q13. Does Python have OOps concepts?****

***Ans:***Python is an object-oriented programming language. This means that any program can be solved in python by creating an object model. However, Python can be treated as procedural as well as structural language.

**Q.14. How do you calculate the length of a string?**

This is simple. We call the function len() on the string we want to calculate the length of.

>>> len('Ayushi Sharma')

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**Q.15. Explain Python List Comprehension.**

The list comprehension in python is a way to declare a list in one line of code. Let’s take a look at one such example.

>>> [i for i in range(1,11,2)]

[1, 3, 5, 7, 9]

>>> [i\*2 for i in range(1,11,2)]

[2, 6, 10, 14, 18]

**Q.16. How do you get all values from a Python dictionary?**

We saw previously, to get all keys from a dictionary, we make a call to the keys() method. Similarly, for values, we use the method values().

>>> 'd' in {'a':1,'b':2,'c':3,'d':4}.values()

False

>>> 4 in {'a':1,'b':2,'c':3,'d':4}.values()

True

**Q.17.  How does break, continue, and pass work?**

These statements help to change the phase of execution from the normal flow that is why they are termed loop control statements.

**Python break**: This statement helps terminate the loop or the statement and pass the control to the next statement.

**Python** **continue**: This statement helps force the execution of the next iteration when a specific condition meets, instead of terminating it.

**Python** **pass**: This statement helps write the code syntactically and wants to skip the execution. It is also considered a null operation as nothing happens when you execute the pass statement.

### ****Q18. What is a map function in Python?****

The map() function in Python has two parameters, function and iterable. The map() function takes a function as an argument and then applies that function to all the elements of an iterable, passed to it as another argument. It returns an object list of results.

For example:

def calculateSq(n):

return n\*n

numbers = (2, 3, 4, 5)

result = map( calculateSq, numbers)

print(result)

 Q19. What is the difference between / and // operator in Python?

* **/**: is a division operator and returns the Quotient value.

10/3

3.33

* **//**: is known as floor division operator and used to return only the value of quotient before decimal

10//3

3

### ****Q20. Write a program in Python to produce Star triangle?****

def Star\_triangle(n):

for x in range(n):

print(' '\*(n-x-1)+'\*'\*(2\*x+1))

Star\_triangle(9)

Output:

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