**PYTHON INTERVIEW QUESTIONS**

**(ASSIGNMENT 1.1)**

**1.What are lists and tuples? What is the key difference between the two?**

Lists and Tuples are both sequence data types that can store a collection of objects in Python. The objects stored in both sequences can have different data types. Lists are represented with square brackets ['sara', 6, 0.19], while tuples are represented with parantheses ('ansh', 5, 0.97).  
But what is the real difference between the two? The key difference between the two is that while lists are mutable, tuples on the other hand are immutable objects. This means that lists can be modified, appended or sliced on the go but tuples remain constant and cannot be modified in any manner.

### 2.What is pass in Python?

The pass keyword represents a null operation in Python. It is generally used for the purpose of filling up empty blocks of code which may execute during runtime but has yet to be written. Without the **pass** statement in the following code, we may run into some errors during code execution.

**3. What are global, protected and private attributes in Python?**

* **Global** variables are public variables that are defined in the global scope. To use the variable in the global scope inside a function, we use the global keyword.
* **Protected** attributes are attributes defined with an underscore prefixed to their identifier eg. \_sara. They can still be accessed and modified from outside the class they are defined in but a responsible developer should refrain from doing so.
* **Private**attributes are attributes with double underscore prefixed to their identifier eg. \_\_ansh. They cannot be accessed or modified from the outside directly and will result in an AttributeError if such an attempt is made

**4. What is slicing in Python?**

* As the name suggests, ‘slicing’ is taking parts of.
* Syntax for slicing is **[start : stop : step]**
* **start** is the starting index from where to slice a list or tuple
* **stop** is the ending index or where to sop.
* **step** is the number of steps to jump.
* Default value for **start** is 0, **stop** is number of items, **step** is 1.
* Slicing can be done on **strings, arrays, lists**, and **tuples**

**5.What is the difference between Python Arrays and lists?**

* Arrays in python can only contain elements of same data types i.e., data type of array should be homogeneous. It is a thin wrapper around C language arrays and consumes far less memory than lists.
* Lists in python can contain elements of different data types i.e., data type of lists can be heterogeneous. It has the disadvantage of consuming large memory.

**6.What is a dictionary in Python?**

* Python dictionary is one of the supported [data types in Python](https://intellipaat.com/blog/tutorial/python-tutorial/python-datatypes/). It is an unordered collection of elements. The elements in dictionaries are stored as key-value pairs. Dictionaries are indexed by keys.
* For eg: we have a dictionary named ‘dict’. It contains two keys, Country and Capital, along with their corresponding values, India and New Delhi.

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

A function is a block of code which is executed only when a call is made to the function. **def** keyword is used to define a particular function.

### 8. What are the common built-in data types in Python?

Python supports the below-mentioned built-in data types:

**Immutable data types:**

* Number
* String
* Tuple

**Mutable data types:**

* List
* Dictionary
* Set

### 9. ****What is type conversion in Python?****

Python provides you with a much-needed functionality of converting one form of data type into the needed one and this is known as type conversion.

Type Conversion is classified into types:

1.Implicit Type Conversion: In this form of [**Type conversion python**](https://intellipaat.com/blog/tutorial/python-tutorial/type-conversion-in-python/) interpreter helps in automatically converting the data type into another data type without any User involvement.

2.Explicit Type Conversion: In this  form of Type conversion the data  type inn changed into a required type by the user.

### 10. ****Is python case sensitive?****

Yes,Python is a case sensitive language.This means that Function and function both are different in python alike SQL and Pascal.

### 11. ****Is indentation required in Python?****

Indentation in Python is compulsory and is part of its syntax.

All programming languages have some way of defining the scope and extent of the block of codes. In Python, it is indentation. Indentation provides better readability to the code, which is probably why Python has made it compulsory.

### 12. ****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.

### ****13. What are negative indexes and why are they used?****

To access an element from ordered sequences, we simply use the index of the element, which is the position number of that particular element. The index usually starts from 0, i.e., the first element has index 0, the second has 1, and so on.

When we use the index to access elements from the end of a list, it’s called reverse indexing. In reverse indexing, the indexing of elements starts from the last element with the index number ‘−1’. The second last element has index ‘−2’, and so on. These indexes used in reverse indexing are called negative indexes

### 14. ****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.

### 15. ****Do we need to declare variables with data types in Python?****

No. Python is a dynamically typed language, I.E., Python Interpreter automatically identifies the data type of a variable based on the type of value assigned to the variable.

### 16. ****What does len() do?****

len() is an inbuilt function used to calculate the length of sequences like list, [python string](https://intellipaat.com/blog/tutorial/python-tutorial/python-strings/), and array.

### 17. ****How will you remove duplicate elements from a list?****

To remove duplicate elements from the list we use the set() function.

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

Operators are referred to as special functions that take one or more values(operands) and produce a corresponding result.

* is: returns the true value when both the operands are true  (Example: “x” is ‘x’)
* not: returns the inverse of the boolean value based upon the operands (example:”1” returns “0” and vice-versa.
* In: helps to check if the element is present in a given Sequence or not.

### 19. ****How will you reverse a list in Python?****

The function list.reverse() reverses the objects of a list.

### 20. ****What is the lambda function in Python?****

A lambda function is an anonymous function (a function that does not have a name) in Python. To define anonymous functions, we use the ‘lambda’ keyword instead of the ‘def’ keyword, hence the name ‘lambda function’. Lambda functions can have any number of arguments but only one statement.