**PYTHON INTERVIEW QUESTIONS**

Q) What is python?

* Python is one of general purpose high level programming language.
* Python developed by “**Guido Van Rossum**”.
* Officially released on 20thfeb 1991.
* Python software maintained by “Python Software Foundation.
* Python is Object Oriented Programming Language as well as Processer Oriented Programing Language.
* The following are the Applications developed with python programming language
* Desktop applications
* Web applications
* Database applications
* Gaming applications
* Internet of things
* Machine deep learning applications
* Artificial intelligence applications
* Data analysis and data analytics
* Scientific applications
* Features of python
* Simple and easy to learn
* Platform independent
* Automatic garbage collection
* Extensible
* Portable

Python code can be executed in two models

* Interactive mode--->we can run line by line of python program code, for this purpose we need python console. Ex: IDLE(Integrated Development Learning Environment)
* Script mode---->we can define a set of statements in a python file and we can run the file to create all the statements at a time.

Q) What are the id() and type() functions?

* Id()------>returns memory address of a variable
* Type ()------>returns datatype of a variable.

Q) What is input function?

* In python input function can be used to read input from keyboard.
* This functions returns a value as string type. we need typecast a string into a required datatype.

Q) What are datatypes in python?

* Int()--------🡪immutable
* Bool()-----🡪immutable
* Type()------🡪immutable
* Float()-----🡪immutable
* Complex----🡪mutable

Q) What is immutable and mutable?

* + Immutable object means when we modify the value of object, the result will be stored in new object.
  + Mutable object means, when we modify the values of object, the results will stored in same object

**String handing in python**

* In python a string can be enclosed in single or double quotes.
* String is sequence of characters.
* In python we don’t have any ‘char’ datatype and.

**Capitalize:**

To convert 1st letter of string is capital.

Example:

Output:

Hello

Msg=hello

Print(msg.capitalize())

**Len():**

To find length of the string.

Output:

6

Username=’prasad’

Print(len(username))

**Count():**

To count how many times the string is repeated in given string.

**Replace():**

To replace the old string with new string in a string.

**Upper():**

To convert a string lower into upper.

**Lower():**

To convert a string upper to lower.

**Is digit():**

* To verify all characters in string are digits or not.
* If yes then returns True, otherwise false.

**Is Lower():**

It returns true, the given string in lower case,otherwise false.

**Is Upper():**

It returns true, the given string in upper case, otherwisefalse.

**StartsWith()**:

It checks either a string starts with a given string or not. If yes returns true, otherwise false.

**EndsWith():**

It checks either string ends with a given string or not. If yes returns true, otherwise false.

**Split():**

It is used to convert to a lengthy string to smaller strings.

**Join():**

It will join the smaller strings with a given character and creates a lengthy string.

**String slicing:**

* Slicing means, reading only particular portion of a string.
* In python a sequence type contains positive and negative index for the elements.
* The slice syntax [start:end+1:step]
* The default **starts** is **zeroend+1 islength of the stringstep is 1**

**Collection types**

The following are the collection types in python

* List
* Tuple
* Set
* Dictionary

**List datatype**

* List is collection datatype.it can store group of values.
* In python a list also considered as array.
* A list can store homogeneous and heterogeneous.
* List is a sequence type each element has positive and negative index.
* List is a mutable object.
* List can allows duplicate values.
* List can be identified as a ’[ ]’.
* We can performs concatenating the two lists, as well as multiply a list.

**Methods of list:**

**Extend():**

It is used to extend a list of elements into a current list.

**Append():**

To append a single item at the end of the list.

**Insert():**

To insert a single element at given index.

**Min ():**

To find minimum value of list.

**Max ():**

To find the maximum value of a list.

**Sum ():**

To find the sum of elements of a list. All elements are must be numbers only.

**Del ():**

It is a reserved word. For delete items from a given index.

**Remove ():**

It is remove an item from a list. It will remove first accurate of item of list. (It removes only repeated values or elements)

**Pop ():**

By default it removes last elements of list. We can also use for removing an item for a given index.

**Clear ():**

It remove all items of list and makes it has empty.

**Sorting list:**

A item of a list can be sorted by using sort (). By default the items are sorted in ascending order. If you want to sort to descending order then a passes keyword are given “reverse=True”. In a list default sorting is based on first element of a list.

* If you sorting the values based on index then we use lambda function.
* Syntax: list.sort(key=lambda x:x[0][2]),(prints ascending order).

List.sort(key=lambda x:x[0][2],reverse=True),(prints descending order)

**List unpacking:**

Extracting elements of a list and sorting into variables is called unpacking.

**List comprehension:**

Creating a list of elements by executing in some logic is called list comprehension. We can create a list with dynamic values using list comprehension.

**Tuple datatype:**

Q) What is module?

* Every python file is called module. A module can have attributes and methods.
* By using “import” total module can import from another module.

Q) What is package?

* Package is collection of modules.
* By creating packages we can easily ‘**organize the code’** and **‘maintain project**’.
* A package contain one or multiple sub packages.
* To create sub package first create sub folder and create an empty module (\_\_init\_\_.py).

Q) What is method& function?

Method is create inside class. Function is created outside of the class.

Q)