PYTHON ASSIGNMENT

(1) what the data types in python? Explain?

A:- Data types are the classification of data items. data types represent a kind of value which determines what operations can be performed on the data. Numeric, non-numeric and Boolean (true/false) data are the most used data types. However, each programming language has its own classification largely reflecting its programming philosophy.

Numeric:-

A numeric value is any representation of data which has a numeric value. python identifies three types of numbers:

→ Integer:- +ve (or) -ve Whole numbers.

→ float:- Any real no with a floating point representation (decimal symbol).

→ Complex number:- A number with real & imaginary components represented as x+yj. x and y are floats & j is -1

Boolean

Data with one of two built in values True or False. Notice that 'T' & 'F' are Capital.

Sequence type

A Sequence is a ordered Collection of Similar or different data types.

→ String:- It is a Collection of one or more characters put in single, double or

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Thriple Quotes

→ List :- It is an ordered collection of one or more data items, not necessarily of the same type, put in square brackets.

→ tuple :- It is an collection of one or more data item's, not necessary of the same type, put in parentheses.

(2) Briefly explain History of python?

A :- * python is widely used general-purpose, high-level programming language. ~~It was~~
* It is an object oriented programming language
* It was created by Guido Van Rossum during the year of 1985-1990.
* It is named after a TV show 'Monty Python's flying Circus's & not after Python - the Snake.

(3) Explain all the operators in python.

A :-
* Arithmetic operators
* Assignment operators
* Comparison —"—
* logical —"—
* Identity —"—
* Membership —"—
* Bitwise —"—

* Arithmetic operators :-

+ → addition
- → Subtraction
* → multiplication
/ → division
% → modulus
** → Exponentiation
// → floor division

Assignment operators :-

=
+=
-=
*=
/=
%=
//=
**=
&=
|=
^=
>>=
<<=

Comparision operators :-

== → equal
!= → not equal
> → greater than
< → lesser than
>= → greater than or equal to
<= → lesser than or equal to

Logical operators :-

and → true if both statements are true
or → true if any one of them are true.
not → Reverse the result.

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Identity operator :-

is → returns true if both variables are true
is not → return true if both variables are not the same object.

membership operator :-

in → Returns true if a sequence with the specified value is present in the object.
not in → Returns true if a sequence with the specified x not in y value is not present in the object.

Bitwise operator :-

& → AND
| → OR
^ → XOR
~ → NOT
<< → zero fill left shift
>> → Signed right shift.

(w) Explain the features of python?

A:- **Easy to Code :-** Python is high level programming language. it is very easy to learn compare to other languages.

Free & open source :-
Because it is freely available in the official website & it is open source.

Object oriented language :-
It is one of the key feature of python. it supports classes, objects encapsulation etc.

GUI Programming Support :-
graphical user interface can be made using module such has PyQt5, PyQt4, wxPython or TK in python.

High-level Programming :-
we don't need to remember the system architecture.

Extensible feature :-
we can write the program and can be compile in C & C++ language.

Python is portable language :-
Because it can be written written any where & can be existed any where.

Python is integrated language :-
Because we can easily integrated python with other language like C, C++ etc...

Interpreted language :-
Because it will be existed line by line.

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Large Standard library :-
It provide rich set of module & functions so we no need to write our own.

Dynamically typed language :-
The Variable is decided at run time not in advance.

(8) Justify why python is interactive interpreted language.

A :- Python is an Interpreted language. Because python code is executed line by line at a time. like other language C, C++ & java etc. there is no need to compile python code this makes it easier to debug our code. the source of python is converted into an immediate form called bycode. So this is interactive interpreted language.