Assignment - 2

1. what the data types of python? Explain

⇒ The Standard type of python:

* Numeric
* Sequence type
* Boolean
* set
* dictionary

→ Numeric : In python numeric datatype represent the data which has numeric value. Numeric value can be integer, floating number (or) even complex numbers

These are divided into

- Integers
- float
- complex numbers

Integers : It is represented by int class. It contains positive (or) negative whole numbers

Float: It is represented by float class. It is a real numbers with floating point representation. It is specified by decimal point.

* Complex numbers: C.n is represented by complex class. It is specified as (real part)+(imaginary part)j.

→ Sequence type: Is the ordered collection of similar (or) different data types. It allows to store multiple values in an organized and efficient fashion. There are several sequence types in python

- String // (3219103060391) //
- List
- Tuple

→ Boolean: Datatype with one of the two built in values, True (or) False. It must be 'T' and 'F'. otherwise it shows error. It is terminated as bool.

→ Set: set is iterable, mutable and has no duplicate elements. Is that it has highly optimized method for checking whether specific element is contained in the set.

→ Dictionary: It can be created by curly braces { } a pair of values. where as keys can't be repeated.

2. Briefly explain history of python?

python was conceived in the late 1980's by GUIDO VAN ROSSUM at centrum wiskunde & informatica (CWI) as ABC language. and interfacing with the Amoeba operating system. //(32191030603 9)

→ python 2.0, released in 2000 like list comprehensions and a garbage collection system with reference counting.

→ python is a multi-paradigm programming language object oriented programming and structed programming.

3. Explain all the operators in python

* Arithmetic operators : used to perform mathematical operations.

operators	meaning	example
+	addition	x+y
-	subtraction	x-y
*	multiplication	x*y
/	division	x/y
//	floor division	x//y

** Left operand raised to the power of right

x ** y

Comparison operators: It returns 'True' (or) 'False' according to the condition

operators	Example
>	x > y
<	x < y
==	x == y
!=	x != y
>=	x >= y
<=	x <= y

Logical operators: AND, OR, NOT operators

operators	Example
And	x and y
Or	x or y
not	not x

Bitwise operators: Act on operands as if they were strings of binary digits. They operate bit by bit

Operator	meaning	Example
&	Bitwise AND	x & y
|	OR	x | y
~	NOt	~x
^	XOR	x ^ y
>>	right shift	x >>
<<	left shift	x <<

Assignment operators: Is used to assign values to variable

Operators	Example
+=	x += y x = x + y
%=	x %= y x = x % y
|=	x |= y x = x | y

^= x^=y (6039)

x=x^y

special operators: is and is not are the identity operators in python.

operator	Example
is	x is true
is not	x is not true

membership operators:

in and not in are the membership operators in python

operators	example
in	5 in x
not in	5 not in x

4. explain the features of python?

* Easy to code.
* Free and open source
* Object oriented language
* Extensible.

* Large standard library.
* GUI programming support
* portable language
* High level language
* Dynamically typed language.

5. Justify why phython is interactive intepreted language

* python program runs directly from the source code
* python programmer into intermediate machine language that is excuted - so python is interpreted language.
* python processed at runtime by the interpreter programme need to be compiled before its Execution