

Assignment-3

1) what are the data types in python? Explain.

a) Text Type :- str

Numeric Type :- int, float, complex

Sequence Type :- list, tuple, range

Mapping Type :- dict

Set Types :- set, frozenset

Boolean Type :- bool

Binary Type :- bytes, bytearray, memoryview

Ex:-

Data Type

x = "Hello world"

str

x = 20

int

x = 20.5

float

x = 1j

complex

x = ["apple", "banana", "cherry"]

list

x = ("apple", "banana", "cherry")

tuple

x = range(6)

range

x = {"name": "John", "age": 36}

dict

x = {"apple", "banana", "cherry"}

set

x = frozenset({"apple", "banana", "cherry"})

frozenset

x = True

bool

x = b"Hello"

bytes

x = bytearray(5)

bytearray

x = memoryview(byte(5))

memoryview

2) Briefly explain history of Python.

A) Python was conceived in 1980 by Guido van Rossum at Centrum Wiskunde & Informatica (CWI).

Python was developed by Python Software Foundation.

Python 2.0 was released in 2000.

Python 3.0 was released in 2008.

Python 2 code does not run unmodified on Python 3.

3) Explain all operators in Python.

A) Arithmetic operators :- $+$, $-$, $*$, $/$, $\%$, $**$, $//$

Assignment operator :- $=$, $+=$, $-=$, $*=$, $/=$, $\%=$, $||=$, $**=$, $\&=$, $|=$, $\wedge=$, $>>=$, $<<=$

Comparison operator :- $==$, $!=$, $>$, $<$, $>=$, $<=$

Logical operator :- and , or , not

Identity operator :- is , is not

Membership operator :- in , not in

Bitwise operator :- $\&$, $|$, \wedge , \sim , $<<$, $>>$

4) Explain the features of python.

A) 1. Python is easy to learn and use

2. Python is more expressive means that it is more understandable and readable.

3. Python is an interpreted language.

4. Python can run equally on different platforms such as windows, Linux, Unix and macintosh etc;

5. Free and open source.

6. Python is object-oriented language.

7. Python has a large and broad library and provides rich set of module

8. Graphical user interfaces can be developed using python.

9. It can be easily integrated with languages like C, C++, JAVA etc;

5) Justify why python is interactive interpreted language.

A) 1) Python program runs directly from the source code

-> Each time python programs are executed code is required.

-> It is processed at runtime by the interpreter.

-> The program need not be compiled before its execution.

-> It is similar to PERL and PHP.