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B4 CSE
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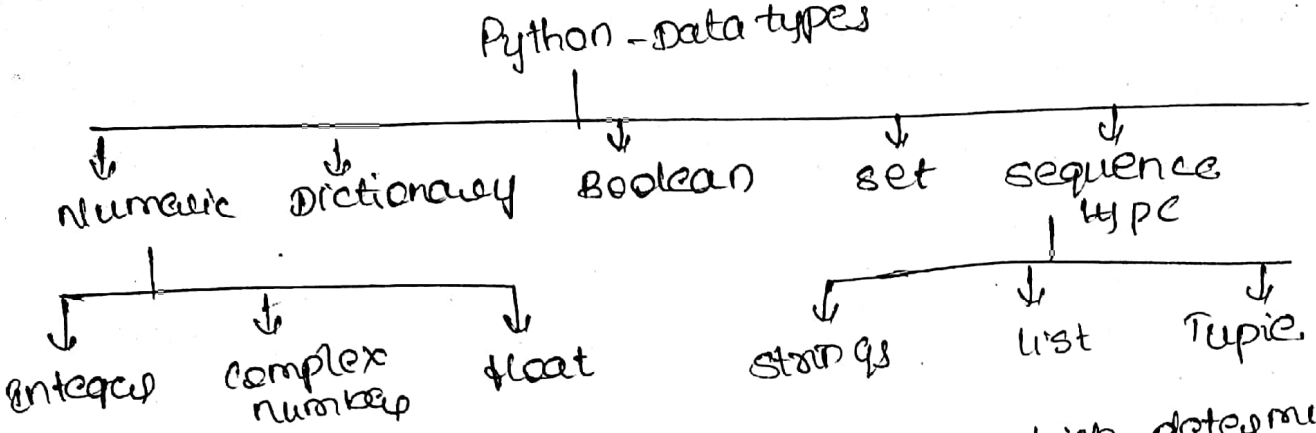
PYTHON ASSIGNMENT

① what are the datatypes in python? Explain?



* Data type represent a kind of value which determines what operations can be performed on that data.

- Numeric :- It is any representation of data which has a numeric value

- integers :- Positive or Negative, whole numbers

- float :- Any real number with a floating point representation in which a fractional component is denoted by a decimal symbol or scientific notation.

- complex numbers :- A number with a real and imaginary component represented as x+iy, x and y are floats and i is √-1 (square root of -1 called an imaginary number)

- Boolean - it has two built in values true or false.
T & F are capital

sequence type :- It is an ordered collection of similar or different data types

- String - it is a collection of one or more characters put in single, double or triple quotes

* List - It is an ordered collection of one or more data items. put in square brackets

* Dictionary:- It is an unordered collection of data in a key value pair form. A collection of such pairs is enclosed in curly braces

Ex:- { 1: "Steve", 2: "Bill" }

2. Briefly explain history of python?

Python was conceived in the late 1980s by Guido Van Rossum and developed by python software foundation. It was mainly developed for emphasis on code readability and its syntax allows programmers to express concepts in fewer lines of code.

The programming language which python is said to have succeeded in ABC programming language.

The inspiration for the name came from BBC's this show "Monty Python's flying circus.

The language was finally released in 1991. It uses a lot fewer codes to express the concepts, when we compare it with java, C++ & C, its design phylosophy was too good.

The main objective is to provide code readability and advanced developer productivity.

3) Explain all the operators in Python?

operator	description	syntax
+	Addition, Adds two operands	x+y
-	subtracts two operands	x-y

*	Multiplies two operands	x * y
/	float: divides the first operand by the second	x / y
//	floor: Divide the first operand by the second	x // y
%	Modulus: returns remainder	x % y
**	power: Returns first raised to power second	x ** y

Relational operators

>	Greater than	x > y
==	equal to	x == y
!=	not equal	x != y
>=	greater than equal	x >= y

logical operators:

and	true if both the operands x and y are true	
or	True if either of the x or y operands is true	
not	True if operand is false	not x

Bitwise operators:

&	Bitwise AND	x & y
|	Bitwise OR	x | y
~	Bitwise NOT	x ~ y
^	Bitwise XOR	x ^ y
>>	Bitwise rightshift	x >> y

Assignment operators

=	Assigning the values from right to left	x=a+b
+=	left side operand add then assigned to left	a+=b a=a+b
*=	multiply a* b and assign to a	a*=b a=a*b
-=	subtract a-b and asign to a	a-=b a=a-b
/=	divide a/b and assign to a	a/=b a=a/b
%=	Modulus of a%b and assign to a	a%=b a=a%b.
&=	perform a & b and assign to a	a&=b a=a&b
>>=	right sight	a>>=b a=a>>b

(4) Explain the features of python?

A: 1) Easy to learn and use
2) Expressive language: understable and readable
3) Interpreted language: debugging is easy
4) Cross platform language: portable language, it can run equally on different platforms
5) Free and open source: It is freely available at official web address
6) Object oriented language: It support concepts of class and objects come into existance.

7) extensible:- It implies that other languages such as C/C++ can be used to compile the code

8) GUI programming support :- It can be easily integrated with languages like C, C++, java etc

9) Integrated: Graphical user interfaces can be developed using python

⑤ Justify why python is integratible interpreted language

Python is an interpreted object oriented programming language. The interpreted it meant that each time a Program is run the interpreter checks through the code for errors and interprets the instruction into machine readable bytecode.

It is a translator in computer language which translates the given code line in machine readable byte codes if any error encountered it stops the translation until the error is traced.

Interactive Python is very much helpful for the debugging purpose. It simply returns the >>> prompt for the correspondig output of the statement is appropriate and returns for incorrect statements.

Within second you can find errors in python, debugging the error is easy.