321810306038
Tejasree

1. What are datatypes in python? Explain.

1. python provides various standard data types that define the storage method on each of them. The data types defined in python are given below.

1. Numbers
2. String
3. List
4. Tuple
5. Dictionary.

Numbers:

Numbers stores numeric values. python creates number objects when a number is assigned to a variable

Eg: a=3, b=5.

a,b are number objects.

It supports 4 types of numeric data those are

1. int 2. long 3. float 4. complex

String:

The string can be defined as sequence of characters represented in the quotation marks. In python, we can use single, double, or triple quotes to define a string.

List:

Lists are similar to arrays in C. However, the list can contain data of different types. The items stored in the list are separated by comma(,) and enclosed with square brackets[].

Tuple:

A tuple is similar to the list in many ways. Like list, tuples also contain the collection of the items of different data types. The items of the tuple are separated with a comma (,) and enclosed in parentheses ().

Dictionary:

Dictionary is an ordered set of a key-value pair of items. It is like an associative array or a hash table where each key stores a specific value.

2. Briefly explain history of python?

Python is dynamically typed and garbage Collected

It supports multiple programming paradigms, including structured, object-oriented and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library.

Python was conceived in the late 1980s as a successor to the ABC language. python 2.0 released in 2000 introduced features like list comprehensions and a garbage collection system with reference counting.

Python 3.0, released in 2008, was a major revision of the language that is not completely backward Compatible and much python 2 code does not run unmodified on python 3.

python interpretes are available for many operating systems. A global Community of programmers develops and maintains Cpython, an open source reference implement -ation. A non profit organization, the python software foundation, manages and direct resources for python.

3. Explain all the operators in python?

1. Arthmetic Operators:

These are used to perform mathematical operation like addition, substraction, multiplication and division

+ -> x+y, * ->x*y, // ->x//y

- -> x-y, / ->x/y, % ->x%y ** ->x**y.

2. Relation Operator:

These will compare the values. It either returns true or false according to condition.

>> x>y, == -> x==y, != ->x!y.

>= -> x>=y,

3. Logical operators:

These perform Logical AND Logical OR and Logical NOT operations.

=> and -> x and y

=> or -> x or y

=> not -> not x.

4. Bitwise operators: These acts on bits and performs bit by bit

Operator	Description	syntax
&	Bitwise AND	x & y
|	Bitwise OR	x | y
~	Bitwise NOT	~x
^	Bitwise XOR	x ^ y
>>	Bitwise right shift	x >>
	left shift	x

5. Assignment operators :

Assignment operators are used to assign values to the variables

Operators :

=, +=, -=, *=, /=, %=, //=, **=, &=, |=, ^=, >>=.

6. Special operators :

There are some special type of operators like

Identity operators :

is - True if the operands are identical

is not - True if the operands are not identical.

7. Membership operators :

in and not in are used in this operators.

in - True if value is found in sequence

not in - True if not found in the sequence.

4. Explain the features of python ?

Features of python are :

1. Easy to Code :

python is high level programming language. python is very easy to learn.

2. Free and open source :

python language is freely available at offline website and you can dowload it from the links easily.

3. Object Oriented Language:

One of the key features of python is Object Oriented programming. python supports Object oriented concepts.

4. High level Language:

python is a high level language. when we write programs in python we dont need to remember the system architecture, nor do we need to manage memory.

5. Extensible feature:

python is excensible language. we can write our some python code into c or c++ language and also can compile that.

6. Dynamically Typed Language:

Python is dynamically-typed language. that means the type for a variable is decided at run time not in advance.

5. Justify why python is interactive interpreted language?

Python is an interacted interpreted language because unlike c/c++ etc, python is an interpreted object oriented programming language. By interpreter it is meant that each time a program is run the interpreter checks through the code for errors and then interprets the instructions

into machine readable byte code.

We can easily integrated python with other language like c, c++ etc there is no need to compile python code this makes it easier to debug our code. The source code of python is converted into immediate form called byte code.