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C Section

① Explain the data types in python? Explain

Ans: 5 data types

1. Numbers
2. Strings
3. List
4. Tuple
5. dictionary

> Numbers : Python Number Store numeric values. Python creates number objects when a number is assigned to a variable.

Python supports 4 types of numeric data.

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

> String : It is defined as a sequence of characters represented in the quotation marks. In Python we can use single, double or triple quotes to define a string.

> List : It is similar to arrays in C. However, the list can contain data of different types. The items stored in the list are seperated with a comma (,) and enclosed with a square brackets [ ].

> Tuple: It is similar to the list in many ways. Like lists, tuples also contain the collection of items of different data types. It is seperated with a commak(,) and enclosed with parameters ().
It is a read only datastructure as we can't modify the size and value of the items of a tuple.

> Dictionary: It is an ordered set of 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?

Ans:- The programming language Python was conceived in the late 1980's and its implementation was started in December 1989 by Guido van Rossum at CWI in the Netherland as a successor to ABC capable of exception handling and interfacing with the Amoeba operating system. Python was named by for the BBC TV show Monty Python's Flying circus.

Python 2.0 was released on October 16, 2000 with major new features, including a cycle-detecting garbage collector for memory management and support for Unicode.

Python 3.0, a major backwards incompatible release was released on December 3, 2008 after a long period of testing. Many of its major features have also been backported to the backwards Compatable, while by now unsupported, Python 2.6 and 2.7.

③ Explain all the operators in Python?

Ans:-

> Arithmetic operator: It perform various arithmetic calculations like addition, subtraction, multiplication division, modulus, exponent etc. These are various methods for arithmetic calculation in Python like you can used the eval function, declare a variable & calculate or call functions.

> Comparison operators: These operators compare the values on either side of the operators and determine the relation between them. It is also referred as relational operators various comparison operators are (==, !=, <>, >, <=, etc).

> Assignment operator: It is used to assigning the value of the right to the left operand. various assignment operators are used in Python are (+=, -=, *= etc)

> Logical operator: In Python are used for conditional statements are true or false. Logical operators in Python are AND, OR and NOT. For logical operators following conditions are applied.

* AND operator - It returns TRUE if both the operands are true.
* OR operator - It returns TRUE if either of the operand is true.
* NOT operator - It returns TRUE if operand is false.

- Membership operators: These operators test for membership in a sequence such as lists, strings or tuples. There are two membership operators in Python (in, not in). It gives the result based on the variable present in specified sequence or string.
- Identity operators: To compare the memory location of two objects. Identity operators are used, the two identity operators are (is, is not)

Operator is: It returns true if two variables point the same object and false otherwise.
Operator is not: It returns false if two variables point the same objects and true otherwise.

(4) Explain the features of Python.

(i) Easy to learn and used:
Python is easy to learn and use. It is developer friendly and high level programming language.

(ii) Expensive language:
Python language is more expensive means that is more understandable and readable.

(iii) Interrupted language:
It interpreter executes the code line by line at a time. This makes debugging easy and thus suitable for beginners.

(iv) Cross-platform language:
Python can run equally on different platforms such as windows, Linux, unix and macintosh. So, we can say that Python is a portable language.

(v) Free and open source:
Python language is freely available at official web address.

(VI) Object oriented language:

Python supports object oriented language and concepts of classes and objects came into existence.

(VII) Extensible:

It implies that other languages such as C/C++ can be used to compile the code and thus it can be used further in our python code.

(VIII) Large standard library.

It provides rich set of module and functions for rapid application development.

(IX) GUI programming support:

GUI can be developed by using python language.

(X) Integrated:

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

(5) Justify why python is interactive interpreted language.

unlike C/C++ etc Python is an interpreted object oriented programming language... unlike c language which is a compiled programming language. the compiler translates the whole code in one-go rather than line-by-line. This is the reason why in c language all the errors listed during compilation time.

An interpreter is a translater in python computer language which translates the given code line-by-line in machine readable byte codes.

Python is interactive, when a python statements is entered, and is followed by the return key (result) appropriate there will be printed on the screen, immediately in the next line. Interactive Python is very much helpful for the debugging purpose.