

① what are the data types in python? Explain

Ans ∴ python has 5 data types

- a. Numbers ∴ Number data types store numeric values
Number objects are created when you assign a value.
- b. Strings ∴ strings in python are identified as a contiguous set of characters represented in the quotation marks. python allows either pair of single or double quotes
- c. Lists ∴ Lists are the most versatile of python's compound data types. A list contains items separated by commas and enclosed within square brackets
- d. Tuples ∴ A tuple is another sequence data type that is similar to the list. A tuple consists of a number of values separated by commas. Unlike lists, however tuples are enclosed within parenthesis
- e. Dictionary ∴ python's dictionaries are kind of hash table type. They work like associative arrays or hashes found in perl and consists of key value pairs. A dictionary key can be almost any python type but are usually numbers or strings values on the other hand can be any arbitrary python object. Dictionaries are enclosed within curly braces

② Briefly explain history of Python

Ans: Python has become one of the most interesting programming languages of our time. It was created by Guido van Rossum during 1985-1990. Python is named after a TV show called Monty Python's Flying Circus and not after Python the snake.

③ Explain all the operators in Python

Ans:

a. Arithmetic operators:

Arithmetic operators are used to perform mathematical operations like addition, subtraction, multiplication, division etc.

b. Relational operators:

Relational operators compare the values. It either returns True or False according to condition.

c. Logical operators:

Logical operators perform logical AND, logical OR and logical NOT operations.

d. Bitwise operators:

Bitwise operators act on operands as if they were strings of binary digits. They operate bit by bit, hence the name.

e. Assignment operators:

Assignment operators are used in Python to assign

values to variables, for example $a = 5$ is a simple assignment operator that assigns the value 5 on the right to the variable a on the left.

F. Special operators :

There are some special type of operators like,

1. Identify operators : 'is' and 'is not' are the identify operators in python. they are used to check if two values or variables are located on the same part of the memory. It either returns True or False according to condition.
2. membership operators : 'in' and 'not in' are the membership operators used to test whether a value or variable is in a sequence. It either returns True or False according to condition.

Q. Explain the Features of python

Ans : Features of python are

1. Simple
2. Easy to learn
3. Free and open source
4. High level language
5. Python is a beginner's language
6. Portable
7. Interactive
8. Interpreted
9. Object oriented
10. Extensible

- 11. Embeddable
- 12. Extensive Libraries
- 13. Databases
- 14. GUI programming
- 15. Scalable

⑤ Justify why python is interactive, interpreted language

Ans: python is interactive language. Interactive, python is very much helpful for the debugging purpose. It simply returns the prompt as the corresponding output of the statement if appropriate and returns error for incorrect statements. In this way if you have any doubts like: whether a syntax is correct, whether the module you are importing exists or anything like that, you can be sure within seconds using python interactive mode. python is also interpreted language. An interpreter is a translator in computer's language which translates the given code line in machine readable bytecodes. and if any error is encountered it stops the translation until the error is fixed. unlike C language, which is a compiled programming language.