

① What data types in python? Explain

Data types in python are:

1. Numeric
2. Boolean
3. Sequence type
4. Dictionary.

Numeric: Any numeric value can be represented by this

Integer: Any positive & negative number without decimal part

Eg: 2, 3, 9, -1, -7

Float: Any real number with fractional component

Eg: 2.00, 3.14

Complex Numbers: A number with real and imaginary part in the form $x+yi$

Eg: $2+3j$

Boolean: Data with two build values i.e., either True & False

Sequence type: Sequence is of collection of same/different data types.

String: Collection of one & more characters which are kept single/double/triple quotes.

List: It is an ordered collection of one & more data items, kept in square braces.

Dictionary: Collection of unordered data in a key: value pair form enclosed in curly braces.

Eg: $\{1, "Steve", 2\}$

② Briefly history of python:

Python was introduced by Guido van Rossum in 1991 and developed by Python software foundation. It was widely used in general purpose high level programming language. It was mainly developed for emphasis,

On code read its symbol allows programmers to express concept in fewer lines of code.

In the late 1980's hobby was about to written. It was that time when writing on python started. soon after that which is situated in netherlands. It was started first as a hobby project because he was looking for an interesting project to keep him occupied during christmas. To create ABC easier in his career and to provide code readability and advanced developer productivity when it was released it had more than enough capability to provide classes with inheritance, several core data types exception handling and functions.

③ Explain the operations in python?

Operations are special symbols that perform arithmetic and logic operations. The value that the operator on is called the operand.

Arithmetic operations:

They are used to perform mathematical operations like addition, subtraction etc.

Identity operations:

is x is true

is not x is not true

Membership operators:

in 5 in x

not in 5 not in x

④ Explain the features of python.

1. Easy to learn and use

Python is easy to learn and use. It is developed

+ Add two operands & carry plus

- Subtraction

* Multiplication

/ division

* Comparison operators:

> greater than

< less than

= Equal to

!= Not equal to

>= greater than & equal

logical operators

and

and y

&

x & y

not

not x

Bitwise operators

&

Bitwise and

|

Bitwise or

-

Bitwise not

>>

Bitwise right shift

<<

Bitwise left shift

x + y + 2

x - y - 2

x * y

friendly and high level programming language.

2. Expensive language:

It means that it is not understandable and readable.

3. Interpreted language:

Interpreter executes the code line by line at a time. This makes debugging easy and thus suitable for beginners.

4. Free and open source:

It is freely available at official web address since code is also available and it is open source.

5. Object oriented language:

It supports objects oriented language and concept of classes and objects come into existence.

6. Extensible:

It implies that other languages such as C/C++ and

8. Large standard library.

Python has large and broad library and provides rich set of modules and functions for rapid application development.

⑨ GUI programming support

Graphical user interface can be developed using Python.

⑩ Integrated

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

⑤ Justify why Python is interactive interpreted language.

Python is interpreted language because unlike C/C++ etc Python is interpreted object oriented programming language. By interpreted it is not meant that each time program is run the interpreter checks through the code for errors and then interprets the instructions into machine readable bytecode which can be easily integrated.

Python with other languages like C/C++ etc. There is no need to compile Python code. This makes it easier to debug over code. The source code of Python is converted into an immediate form called byte code.