1.Data types in python are:

Data types are the classification or categorization of data items. Data types represent a kind of value which determines what operations can be performed on that data. Numeric, non-numeric and Boolean (true/false) data are the most used data types.

Numeric

A numeric value is any representation of data which has a numeric value. Python identifies three types of numbers:

* **Integer:** Positive or negative whole numbers (without a fractional part)
* **Float:** Any real number with a floating point representation in which a fractional component is denoted by a decimal symbol or scientific notation
* **Complex number:** A number with a real and imaginary component represented as x+yj. x and y are floats and j is -1(square root of -1 called an imaginary number)

Boolean

Data with one of two built-in values True or False. Notice that 'T' and 'F' are capital. true and false are not valid booleans and Python will throw an error for them.

Sequence Type

A sequence is an ordered collection of similar or different data types. Python has the following built-in sequence data types:

* **String**: A string value is a collection of one or more characters put in single, double or triple quotes.
* **List** : A list object is an ordered collection of one or more data items, not necessarily of the same type, put in square brackets.
* **Tuple**: A Tuple object is an ordered collection of one or more data items, not necessarily of the same type, put in parenthes

DOCITIONARY:object is an unordered collection of data in a key:value pair form. A collection of such pairs is enclosed in curly brackets. For example: {1:"Steve", 2:"Bill", 3:"Ram", 4: "Farha"}

type() function

Python has an in-built function **type()** to ascertain the data type of a certain value. For example, enter type(1234) in Python shell and it will return <class 'int'>, which means 1234 is an integer value. Try and verify the data type of different values in Python shell, as shown below.

2.History of python:

The [programming language](https://en.wikipedia.org/wiki/Programming_language) [Python](https://en.wikipedia.org/wiki/Python_(programming_language)) was conceived in the late 1980s, and its implementation was started in December 1989 by [Guido van Rossum](https://en.wikipedia.org/wiki/Guido_van_Rossum) at [CWI](https://en.wikipedia.org/wiki/Centrum_Wiskunde_%26_Informatica) in [the Netherlands](https://en.wikipedia.org/wiki/The_Netherlands) as a successor to [ABC](https://en.wikipedia.org/wiki/ABC_(programming_language)) capable of [exception handling](https://en.wikipedia.org/wiki/Exception_handling) and interfacing with the [Amoeba operating system](https://en.wikipedia.org/wiki/Amoeba_(operating_system)).[[3]](https://en.wikipedia.org/wiki/History_of_Python#cite_note-faq-created-3) Van Rossum is Python's principal author, and his continuing central role in deciding the direction of Python is reflected in the title given to him by the Python community, [*Benevolent Dictator for Life* (BDFL)](https://en.wikipedia.org/wiki/Benevolent_Dictator_For_Life).  Python was named for the BBC TV show [*Monty Python's Flying Circus*](https://en.wikipedia.org/wiki/Monty_Python%27s_Flying_Circus).[[7]](https://en.wikipedia.org/wiki/History_of_Python#cite_note-7)

Python 2.0 was released on October 16, 2000

3.operators in python:

* Arithmetic operators
* Assignment operators
* Comparison operators
* Logical operators
* Identity operators
* Membership operators
* Bitwise operators

|  |  |  |
| --- | --- | --- |
| + | Addition: adds two operands | x + y |
| - | Subtraction: subtracts two operands | x - y |
| \* | Multiplication: multiplies two operands | x \* y |
| / | Division (float): divides the first operand by the second | x / y |
| // | Division (floor): divides the first operand by the second | x // y |
| % | Modulus: returns the remainder when first operand is divided by the second | x % y |
| \*\* | Power : Returns first raised to power second | x \*\* y |

|  |  |  |
| --- | --- | --- |
| > | Greater than: True if left operand is greater than the right | x > y |
| < | Less than: True if left operand is less than the right | x < y |
| == | Equal to: True if both operands are equal | x == y |
| != | Not equal to - True if operands are not equal | x != y |
| >= | Greater than or equal to: True if left operand is greater than or equal to the right | x >= y |
| <= | Less than or equal to: True if left operand is less than or equal to the right | x <= y |
| and | Logical AND: True if both the operands are true | x and y |
| or | Logical OR: True if either of the operands is true | x or y |
| not | Logical NOT: True if operand is false | not x |
| & | Bitwise AND | x & y |
| | | Bitwise OR | x | y |
| ~ | Bitwise NOT | ~x |
| ^ | Bitwise XOR | x ^ y |
| >> | Bitwise right shift | x>> |
| << | Bitwise left shift | x<< |

6.Features of python:

* Python is a dynamic, high level, free open source and interpreted programming language. ...
* Easy to code: ...
* Free and Open Source: ...
* **Object**-Oriented Language: ...
* GUI Programming Support: ...
* High-Level Language: ...
* Extensible feature: ...
* Python is Portable language:

7.Python is a interactive language because ,,

py files are run in the Python interpreter. Interactive mode is a command line shell which gives immediate feedback for each statement, while running previously fed statements in active memory. As new lines are fed into the interpreter, the fed program is evaluated both in part and in whole.

Interactive mode is a good way to play around and try variations on syntax.

On macOS or linux, open a terminal and simply type "python". On Windows, bring up the command prompt and type "py", or start an interactive Python session by selecting "Python (command line)", "IDLE", or similar program from the task bar / app menu. IDLE is a GUI which includes both an interactive mode and options to edit and run files.