

10/6/20

1. What are the different types data types? Explain.

A There are 5 different data types.

1. Number:- Number datatypes store numeric values. Numbers are created when you assign a value to them. It recognizes integers, floating points, complex number.

2. strings:- Strings in python are identified as a contiguous set of characters represented in quotes either single/double.

3. List:- It contains items separated by commas and enclosed within square bracket.

4. Tuples:- A tuple consists of a number of values separated by commas and are enclosed within paranthesis.

5. Dictionary:- They are kind of hash-table type. They work like associative arrays or hashes and consist of key value pairs. They are usually numbers or strings. They are enclosed within curly braces.

2. Briefly explain history of Python.

The Programming language which Python is said to have succeeded is ABC Programming Language, which had the interfacing with Amoeba Operating System and had the feature of exception handling. The Syntax of ABC and good features were taken and removed all the flaws.

The inspiration for the name came from BBC's TV show - 'Monty Python's flying Circus', as he was a big fan of the TV show and also he wanted a short, unique and slightly mysterious name and hence he named python! He was the 'Benevolent dictator for life' until he stepped down from the position as the leader on 12th July 2018. The language was finally released in 1991.

When released it had a lot fewer codes to express the concepts, when compared to Java, C++, but design philosophy was quite good too. The main objective is to provide code readability and advanced developer productivity.

3. Explain all the Operators in Python.

Ans Operators are special symbols that represent computation like addition and multiplication.

- The Operators ~~are~~ + which is used for addition. where it adds the values present in operands.
- The Operators - which is used for subtraction between 2 operands.
- The Operator \* and / is used for multiplication or multiply and divide operation.
- The Operator \*\* is used for calculating exponentially.
- The Operator // is used for Quotient Operator.  
i.e.  $7 // 3 = 2$ .
- The Operator % is known as modulus Operator and works on integers which yields the remainder.  
i.e.  $7 \% 3 = 1$

4. Explain the features of Python.

1. Easy to learn and use:-

It is developer-friendly and high level language

2. Expressive language:-

It is more understandable and readable.



### 3. Interpreted Language:-

This makes debugging easy and thus suitable for beginners.

### 4. Cross-platform language/portable:-

It can run on different platforms thus making portable.

### 5. Free and Open source:-

The source code is available. Therefore it is open source.

### 6. Object Oriented Language:-

Supports OOP and concepts of classes and objects come into existence.

### 7. Extensible.

The other languages such as C/C++ can be used to compile the code and thus it can be used further in Python code.

### 8. Large standard library:-

It 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

Ans. Unlike C/C++ etc, python is an interpreted object-oriented programming language. By interpreted it is meant that each time a program is run the interpreter checks through the code for errors and then interprets the instruction into machine-readable bytecode.

An interpreter is a translator in computer's language which translates the given code line-by-line in machine-readable bytecode and if any error is encountered it stops the translation until the error is fixed. So python is interactive interpreted language.