

Simple and Easy to Learn

Python is a very easy language, to begin with. It is easy to read, write, and understand, just like reading English. The biggest advantage of python is that the syntax is very easy, it makes you think for solutions rather than syntax.

The lines of code required to write a program are fewer compare to other programming languages. And hence is easy for new programmers to adapt. Hence this is the best feature of python which attracts programmers around the world.

Free and Open Source

To use python we don't have to pay a single penny, because it is provided by the Python Software Foundation which is a non-profitable organization. You can download it from the python.org website for free.

Python is an open-source programming language, which means we can access the source code of python and can modify it as per our requirement. There are python distributors such as CPython, Anaconda, ActivePython, PyPy, etc.

Object-Oriented Language

Object-Oriented Programming (OOP) is based on the concept of objects and classes. It is used to structure a software program into simple, reusable parts of code blueprints (usually called classes), which are used to create individual instances of objects.

Python supports object-oriented language and concepts of classes and objects etc. As Python supports OOP it follows object-oriented concepts like inheritance, abstraction, encapsulation, and polymorphism.

Procedural Language

Python is object-oriented as well as a procedural language. It is also called structured programming. A procedural language is based upon the concept of the procedure call. Procedures, also known as routines, subroutines, or functions.

This feature of python allows you to use reusable functions.

Dynamically Typed Language

Python Programming Language is a Dynamically typed language.

Dynamically typed languages are those languages in which interpreters assign the variable a type at runtime based on the variable value at that particular time.

In Python, we don't have to declare the data type of the variables while assigning the value, python does it on its own while executing. Unlike C, C++, JAVA, etc where we have compulsory declare the datatype of variables while declaration. We can use the same variable for different data types as the program flow goes, such type of flexibility python provides.

Extensive Collection of Libraries

Python has extensive collections of built-in libraries. It is one of the best features of python. When you install python, by default these libraries are download to your system. These libraries are useful as we don't have to write every single line of the function code instead call them, this helps to achieve code reusability. No other programming language provides this much library support.

Python also has a package installer called Pip (stands for preferred installer program). Pip is used to install and manages the software packages.

Interpreted Language

Unlike other programming languages like C, Java, etc where we need to first compile and then run our program. Python is interpreted which means we do not require to compile our code, instead of

executing the source all at once python executes the program line by line. Python's execution of code line by line can be useful for programmers for debugging.

GUI Programming

Python has support for a wide range of toolkits for developing GUI (Graphical User Interface). Python provides GUI toolkits such as Tkinter, wxPython, Jpython, etc. Providing the support of such a variety of GUI frameworks, thus becoming one of the most favorite languages for developers. To get the list of all frameworks or tools of GUI Programming in Python [click here](#).

Extensible and Embeddable

Python is an extensible and embeddable language meaning if we feel to use other programming languages to perform a specific part of a project python allows us to use other programming languages with it. Also, we can embed python with other languages. The integration of Python with other languages makes it extensible and embeddable.

Platform Independent

The next important feature of python is that it is platform-independent. Platform independent means a python application can run on any platform i.e. Windows, Linux, or MAC, etc.

Python uses Python virtual Machine (PVM) that converts source code into byte code which is machine independent and can be run on any platform without re-writing the program again.

Portability

Python support portability which means you can move your project from one platform to another without changing a single line of code. This feature provides the facility to share a piece of code with your team members or friends and that code will run the same way as it does for you when you run that code.

High-level Language

Python is a high-level language and a programmer-friendly language. Low-level activities like memory management, object distraction, securities, etc all these low-level activities are taken care of by Python Virtual Machine (PVM). Being a programmer we should not worry about these activities while using python.

Garbage collection

Garbage collection is a mechanism that releases the memory when the object is no longer use. It destroys the objects and reuses its memory to other objects.

Python has an automatic garbage collection mechanism which results in great memory and performance management. Hence maximum memory can be utilized and the application becomes robust.

Interactive mode

Python provides an interactive mode which means you can run your code directly in the python shell which can be accessed in the terminal of your operating system.

This allows the developers an advantage for testing and debugging code.

Conclusion

Above we have discussed **features of python** that make this language so popular today. We saw *python is a high-level, object-oriented, dynamically typed language. It is easy to learn, and which provides huge library support and important features that are helpful for developer around the world.*