Python Features

1.Free And Open Source

2.Easy To Code

3.Easy To Read

4.Object Oriented Language

5.GUI Support

6.High Level Language

7.Extensible Language

8.Easy To Debug

9.Portable Language

10.Interpreted Language

11.Large Standard Library

12.Dynamically Typed Language

13.Frontend And Backend Development

14.Used On Servers

15.Used for Scripting

1. Free And Open Source

Python is free to install locally and on server. Anyone can see full working architecture of python and can contribute their codes and ideas. All library and frameworks are available publically to develop softwares and research. But not available for commercial use.

2. Easy To Code

Python is an dynamically typed high level programming that use interpreter to execute program. It means python do type checking at execution time and

assign type of variables dynamically by itself, it makes program to execute bit slower than other programming language. But it makes programmers to code easliy and fast. There is no needs to define variables types.

3. Easy To Read

Python syntax are similars to english, and uses PEP8 for documentation, that makes easier for readers.

4. Object Oriented Language

Python supports OOP conecpt, that makes programmers to achieve DRY principle, DRY stands for do not repeat yourself. Oop is programming logic based on object which contains data and codes. In python everythings is an object means every input taken by any python program that treats as an object. It supports functions, classes, inheritance, encapsulation and polymorphism.

5. GUI Support

Python GUI library that is used by so many frameworks. It allows user to intract with computer system using graphical icons and audio indicator. But python still provide command line tools to interact.

6. High Level Language

Python enables development of a program in much more user-friendly programming context and doesn't depents on any computer's hardware architecture. There is no need to write code in binary form.

7. Extensible Language

We can write some python code in C/C++ and can compile in C/C++. It means we can modify existing and add syntax. Being extensible means a flexible programming language that designed to make it very easy for programmers to adapt the language to suits their needs.

8. Easy To Debug

Debugging means finding error and track them. Finding the exact posiiton of error. Python through errors after executing all lines of code even an errors are in mid lines. After Reading all lines python through errors and through all the errors in one execution time.

9. Portable Language

Python is an machine independent programming language, doesn't depends on any machines hardware architecture. We can run same python code in Linux, Os X, and window. But in low level language developer have to take care of machine hardware architecture.

10. Interpreted Language

Python doesn't have compiler, that compiles the code then executes them. Unlike other language python doesn't compile code directly interprets into machine instructions. e.g – Python, javascript, Perl and BASIC. This feature make python slower as compare to compiler language.

11. Large Standard Library

Python have larger open and active community, that keep eyes on bugs and contributing codes and new features, this is how python have large library. Python have over 137,000 libraries that play vital roles in developing data science, Machine learning and Data Visualization.

12. Dynamically Typed Language

Dynamically typed language perform type checking at execution time. Python perform type checking at execution time. it means there is no need to assign variable type by users, python already knows about variable type during initialization. It make programming easy.

13. Frontend And Backend Development

Everything happens in background is backend. Python uses himself and one of dbms for backend. Python uses html, css and javascript to serve frontend for better user experiences.

14. Used On Servers

Python is used to create web servers.

15. Used for Scripting

Python is also used as scripting language to develop servers.

** Bonus **

Python is an object-oriented programming, functional programming, procedural programming. Python is an multiple paradigm that uses different approach to solve problems. Python also used as scripting language.

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