Python Features and Advantages

1. Easy to Code

Python is a very high-level programming language, yet it is effortless to learn. Anyone can learn to code in Python in just a few hours or a few days. Mastering Python and all its advanced concepts, packages and modules might take some more time. However, learning the basic Python syntax is very easy, as compared to other popular languages like C, C++, and Java.

### 2. Easy to Read

Python code looks like simple English words. There is no use of semicolons or brackets, and the indentations define the code block. You can tell what the code is supposed to do simply by looking at it.

### 3. Free and Open-Source

Python is developed under an OSI-approved open source license. Hence, it is completely free to use, even for commercial purposes. It doesn't cost anything to download Python or to include it in your application.

### 4. Robust Standard Library

Python has an extensive standard library available for anyone to use. This means that programmers don’t have to write their code for every single thing unlike other programming languages. There are libraries for image manipulation, databases, unit-testing, expressions and a lot of other functionalities. In addition to the standard library, there is also a growing collection of thousands of components,

### 5. Interpreted

When a programming language is interpreted, it means that the source code is executed line by line, and not all at once. Programming languages such as C++ or Java are not interpreted, and hence need to be compiled first to run them. There is no need to compile Python because it is processed at runtime by the interpreter.

### 6. Portable

Python is portable in the sense that the same code can be used on different machines. Suppose you write a Python code on a Mac. If you want to run it on Windows or Linux later, you don’t have to make any changes to it. As such, there is no need to write a program multiple times for several platforms.

### 7. Object-Oriented and Procedure-Oriented

A programming language is object-oriented if it focuses design around data and objects, rather than functions and logic. On the contrary, a programming language is procedure-oriented if it focuses more on functions (code that can be reused). One of the critical Python features is that it supports both object-oriented and procedure-oriented programming.

### 8. Extensible

A programming language is said to be extensible if it can be extended to other languages. Python code can also be written in other languages like C++, making it a highly extensible language.

### 9. Expressive

Python needs to use only a few lines of code to perform complex tasks. For example, to display Hello World, you simply need to type one line - print(“Hello World”). Other languages like Java or C would take up multiple lines to execute this.

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### 12. High-level Language

Python is a high-level programming language because programmers don’t need to remember the system architecture, nor do they have to manage the memory. This makes it super programmer-friendly and is one of the key features of Python.

### 13. Simplify Complex Software Development

Python can be used to develop both desktop and web apps and complex scientific and numerical applications. Python's data analysis features help you create custom big data solutions without so much time and effort. You can also use the Python data visualization libraries and APIs to present data in a more appealing way. Several advanced software developers use Python to accomplish high-end AI and natural language processing tasks.

### 14. Other Advanced Programming Features

Python contains several advanced programming features such as generators (used to create iterators with a different approach that most other languages) and list comprehensions (used to create new lists from other iterables). Python also has automatic memory management eliminating the need to manually allocate and free memory in the code.