

PYTHON- THE LANGUAGE OF CREATIVITY

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ABSTRACT

Python is a suitable language for fast learning as well as real-world programming. It is a powerful high-level programming language which is created by a programmer named “Guido van Rossum”. In the review, we first introduce the characteristics python programming. This also discusses why python being awarded as the fastest growing programming language in recent times supported by research done worldwide. Also features important information and tools with reference to the python programming language.

Key words: Python, Programming languages, Real world programming

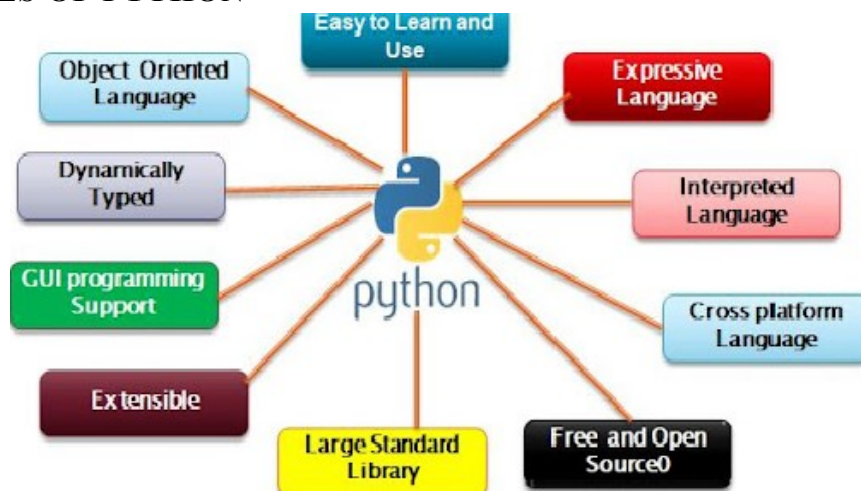
1. INTRODUCTION

Python is a widely used general-purpose, high level programming language. It was created by Guido van Rossum in 1991 and further developed by the Python Software Foundation. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer lines of code. Python is a programming language that lets you work quickly and integrate systems more efficiently.

CHARACTERISTICS OF PYTHON

Python is a very well-designed language that can be used for real-world programming. Python is also a very high-level, dynamic, object-oriented, general purpose programming language that uses interpreter and which can be used in a vast domain of applications. Python was designed to be easy to understand and use. Python is a very user-friendly language. Python has much more gained popularity for being a beginner-friendly language, and it has replaced Java as the most popular introductory language. As normally a dynamically typed language, Python is really very flexible. Furthermore, Python is also more forgiving of errors, so you'll still be able to compile and run your program until you hit the problematic part. Python is a flexible, neat, clean, simple programming language. This language can support various styles of programming including structural and object-oriented. Other styles can be used, too. Python is very flexible, because of its ability to use modules and components that were designed with help in other programming languages. For example, you can write a program in C or Java and import it to python as a module. Then add else to it (for instance design a GUI for it).

2. FEATURES OF PYTHON



Python has many important features for programmers, both for those who are starting out as well as for those who already have knowledge and want to try new things or experiment.

Object oriented- One of the main characteristics of Python is that it is an object-oriented programming language. This means that Python recognizes the concept of class and object encapsulation, which makes coding with Python more efficient in the long run. As such, Python makes it easy to create inherited object classes. This means that, building from things that have already been done, you can create new classes that will inherit the attributes of the previous ones, which simplifies and improves the long-term efficiency of the code.

Open Source- Yet another of the main characteristics of Python is that it is an open source programming language. Anyone can create and contribute to its development. This in turn means that it has a large community that works to improve and facilitate the learning of this programming system. Also, it is free to download for any operating system, including Windows, Mac or Linux.

Easy to learn- Python is a very user-friendly code for all types of developers, from those who already have experience with other languages to those who are learning to program. If you already have experience with C, C++, Java or C#, Python is a good system with which to continue growing and expanding your programming knowledge. If you're just starting out, with the right training, it's easy to jump in and learn how to do things in a very short time from scratch.

Integration and adaptation- Another of the main characteristics of Python is that it is an integrated programming language. This means that it executes the code line by line. What does this imply? It means that Python, unlike other coding languages, does not compile, which makes the process of debugging code much easier and more efficient. Another advantage of this characteristic of Python is that it makes execution easier and saves time in the long run.

GUI support- GUI stands out for Graphical User Interface, which is a key aspect of any programming language as it helps add style to the code and makes the programmer's work much more visible.

In this sense, Python is compatible with a wide range of GUIs, which can be easily imported, making it a widely used system in Data Science, as it facilitates data visualization.

High level programming- As we said at the beginning, one of the main characteristics of Python is that it has been designed to become a high-level programming language. That means that, when working with it, you don't need to know the code structure, architecture, or memory management. This simplifies the work of programmers.

Portable- Let's see this feature through a practical case: suppose you are working with Python on Windows, but you need to transfer your work to Mac or Linux. With Python you can do this without having to make any changes in the code. This portability between different operating systems is something that not all programming languages have, which is why Python has become one of the most portable systems today, a great advantage in its main fields of application. Python Users: Many organizations have used and been using this tool for different functions. Some of them are enlisted: YouTube is an extensive user of Python. The Bit Torrent peer-to-peer file-sharing system uTorrent is written in Python. Google uses Python as a customization tool for its popular GIS mapping products. NASA and others use Python for complex scientific programming tasks. MediaTek use Python for hardware coding and test. National Security Agency uses Python for cryptography and intelligence-related programs. One Laptop Per Child project builds its UI and activity model in Python

FUTURE OF PYTHON

According to the technical indexes, Python is the most popular programming language out of many ones. With the rise of jQuery and more recently Node.js, Python's usage as the main language for backend web development has increased, especially since it has a fragmented MVC ecosystem. However, with big data becoming more and more popular, Python has become a skill that is more in demand than it has ever been, especially it can be integrated into almost all web apps. Python is actively worked on with a quick update cycle, pushing out new iterations every year or so to make sure it remains relevant. In terms of search volume for interest in learning Python, it has skyrocketed to the 1st place when compared to others.

3. CONCLUSION

In this paper, we briefly introduced the Python programming language as a suitable choice for learning coding and real-world programming. The paper has discussed the properties, features, types of code support offered by python. According to these features, we found Python as a faster, power-packed, portable, simple, and open-source coding language that supports other technologies flexibly.

Then, various types of programs that can be written by Python were investigated. The paper has also discussed the latest applications of python by some of the popular organizations. The paper referenced the reasons why python language is the fastest growing coding language based on the information obtained from popular and trusted internet blogs and websites.

4. REFERENCES

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