## Why is Python so popular? What is it about Python that seems to capture the interest of developers, new and experienced alike? Here, we take a brief look at nine factors that have helped make Python one of the world’s leading programming languages.

## **1. Python is easy to learn**

## One of the largest hurdles for those who are interested in getting into coding is that programming languages really are their own languages; they have their own rules, syntax, grammatical structures, etc., and they often necessitate learning a completely new vocabulary.

## But Python is different. More so than nearly any other programming language, Python reads and writes very similarly to standard English. It uses a simplified syntax with an emphasis on natural language, for a much easier learning curve for beginners. And, because Python is free to use and is supported by an extremely large ecosystem of libraries and packages, it’s often the first-choice language for new developers. These and other factors help demonstrate why Python is the best choice for those without proper coding experience.

## **2. Python has an active, supportive community**

## No programmer is an island; they depend on essential documentation and support so that when they encounter unexpected issues or new problems to solve, they have somewhere to go to find answers. Python has been around for over three decades, more than enough time for a dedicated user community to grow up around it. The Python community includes developers of all skill levels and provides easy access to documentation, guides, tutorials, and more.

## At the same time, the Python community is extremely active. When developers are up against deadlines and in desperate need of help, they can work with the community to crowdsource fast, effective solutions.

## **3. Python is flexible**

## Python is often described as a general-purpose programming language. This means that unlike domain-specific languages which are designed only for certain application types, Python may be used to develop nearly any kind of application in any industry or field.

## What is Python used for? Python has been used to great effect in web development, data analytics, machine learning, data science, data engineering, and even machine learning and artificial intelligence. Many top businesses and software companies depend on Python including Facebook, Google, Netflix, Instagram, and others. Supported by a range of frameworks and libraries, there’s essentially no coding job that Python can’t handle.

## **4. Python offers versatile web-development solutions**

## Although Python is an effective choice for many kinds of development projects, its usefulness in web development is worth specific recognition. Using available open-source libraries, Python developers can get their web applications up and running quickly and easily.

## And while other languages, such as Java or .NET, might offer increased performance, the speed and developer experience provided by Python makes it an obvious choice for those who need a quick solution that they can depend on. At the same time, Python’s variety of available resources offers a unique opportunity to integrate other application types into websites.

## **5. Python is well suited to data science and analytics**

## Many of the factors that make python an attractive choice for beginners also set it apart as a reliable option for data-science and data-analysis. Python’s ease of use, support, and flexibility have made it an essential tool for those who work with machine learning, cloud computing, and big data.

## Python is particularly effective for analyzing and organizing data sets. In fact, for data science and analytics projects, Python is second only to R language in terms of popularity. Its out-of-the-box data analysis capabilities, combined with its growing ecosystem of data-focused frameworks, help ensure that Python remains a popular data-science programming solution.

## **6. Python is efficient, fast, and reliable**

## Occasionally, a developer that specializes in a different programming language might ask “Why is Python slow?” And yes, compared to some other languages, such as Java, C#, Go, JavaScript, or C++, Python often has a slightly slower execution speed. However, in today’s world, development time is much more important than computer run time. And in terms of time-to-market, Python simply cannot be beaten.

## Likewise, Python is efficient and reliable, allowing developers to create powerful applications with a minimum of effort. Completing coding projects is easy rather than time-consuming, and the results are able to stand toe to toe with applications created using more-demanding languages.

## **7. Python is widely used with IoT Technology**

## As wireless access becomes ever-more ubiquitous, the internet of things (IoT) continues to grow. These small, internet-connected devices often allow users to make small adjustments to their code, customizing their performance to fit specific needs. Many of these devices support either Python or Micropython (a scaled down version of the programming language designed for simpler devices).

## As more and more devices become internet-connected, users are discovering that a working understanding of Python may be essential in fully utilizing the ever-expanding internet of things.

## **8. Python empowers custom automation**

## Programming complex technologies generally requires writing a significant amount of code. Unfortunately, even small, simple tasks can end up co-opting large amounts of available developer time. Python incorporates tools and modules to help automate these repetitive, time-consuming tasks, so that developers can focus their energies on other important issues.

## Extended by its library of plugins, Python has become an automation standard across industries. In fact, even when working with other programming languages, developers will often write their automation scripts using Python.

## **9. Python is the academic language**

## Thanks to its growing dependability in the areas of data science, Python has become the go-to computing language in schools, colleges, and other places of learning. Simply put, those who pursue a formal education in computer science are extremely likely to be introduced to Python during the course of their learning and are even more likely to continue using Python throughout their career.

## By teaching the next generation of programmers and developers how to get the most out of Python, schools are ensuring that Python remains a viable, popular option for years to come.