

# What Is Python Used For? A Beginner's Guide

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Python has become one of the most popular programming languages in the world in recent years. It's used in everything from machine learning to building websites and software testing. It can be used by developers and non-developers alike.

Python, one of the most popular programming languages in the world, has created everything from Netflix's recommendation algorithm to the software that controls self-driving cars. Python is a general-purpose language, which means it's designed to be used in a range of applications, including **data science, software and web development, automation**, and generally getting stuff done.

Let's take a closer look at what Python is, what it can do, and how you can start learning it.

## What is Python?

Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis. Python is a general-purpose language, meaning it can be used to create a variety of different programs and isn't specialized for any specific problems. This versatility, along with its beginner-friendliness, has made it one of the most-used programming languages today. A survey conducted by industry analyst firm RedMonk found that it was the second-most popular programming language among developers in 2021 [\[1\]](#).

## What is Python used for?

Python is commonly used for developing websites and software, task automation, data analysis, and data visualization. Since it's relatively easy to learn, Python has been adopted by many non-programmers such as accountants and scientists, for a variety of everyday tasks, like organizing finances.

"Writing programs is a very creative and rewarding activity," says University of Michigan and Coursera instructor Charles R Severance in his book *Python for*

*Everybody.* “You can write programs for many reasons, ranging from making your living to solving a difficult data analysis problem to having fun to helping someone else solve a problem.”

**What can you do with python?** Some things include:

- Data analysis and machine learning
- Web development
- Automation or scripting
- Software testing and prototyping
- Everyday tasks

Here’s a closer look at some of these common ways Python is used.

## **Data analysis and machine learning**

Python has become a staple in data science, allowing [data analysts](#) and other professionals to use the language to conduct complex statistical calculations, create data visualizations, build machine learning algorithms, manipulate and analyze data, and complete other data-related tasks.

Python can build a wide range of different data visualizations, like line and bar graphs, pie charts, histograms, and 3D plots. Python also has a number of libraries that enable coders to write programs for data analysis and machine learning more quickly and efficiently, like TensorFlow and Keras.

## **Web development**

Python is often used to develop the back end of a website or application—the parts that a user doesn’t see. Python’s role in web development can include sending data to and from servers, processing data and communicating with databases, URL routing, and ensuring security. Python offers several frameworks for web development. Commonly used ones include Django and Flask.

Some web development jobs that use Python include back end engineers, full stack engineers, Python developers, software engineers, and DevOps engineers.

## **Automation or scripting**

If you find yourself performing a task repeatedly, you could work more efficiently by automating it with Python. Writing code used to build these automated processes is called scripting. In the coding world, automation can be used to check for errors across multiple files, convert files, execute simple math, and remove duplicates in data.

Python can even be used by relative beginners to automate simple tasks on the computer—such as renaming files, finding and downloading online content or sending emails or texts at desired intervals.

## **Software testing and prototyping**

In software development, Python can aid in tasks like build control, bug tracking, and testing. With Python, software developers can automate testing for new products or features. Some Python tools used for software testing include Green and Requestium.

## **Everyday tasks**

Python isn't only for programmers and data scientists. Learning Python can open new possibilities for those in less data-heavy professions, like journalists, small business owners, or social media marketers. Python can also enable non-programmers to simplify certain tasks in their lives. Here are just a few of the tasks you could automate with Python:

- Keep track of stock market or crypto prices
- Send yourself a text reminder to carry an umbrella anytime it's raining
- Update your grocery shopping list
- Renaming large batches of files
- Converting text files to spreadsheets
- Randomly assign chores to family members
- Fill out online forms automatically

## **Why is Python so popular?**

Python is popular for a number of reasons. Here's a deeper look at what makes it so versatile and easy to use for coders.

- It has a **simple syntax** that mimics natural language, so it's easier to read and understand. This makes it quicker to build projects, and faster to improve on them.
- It's **versatile**. Python can be used for many different tasks, from web development to machine learning.
- It's **beginner friendly**, making it popular for entry-level coders.
- It's **open source**, which means it's free to use and distribute, even for commercial purposes.
- Python's archive of **modules and libraries**—bundles of code that third-party users have created to expand Python's capabilities—is vast and growing.
- Python has a **large and active community** that contributes to Python's pool of modules and libraries, and acts as a helpful resource for other programmers. The vast support community means that if coders run into a stumbling block, finding a solution is relatively easy; somebody is bound to have encountered the same problem before.

## Ready to get started?

For those just starting out, Google's [IT Support Professional Certificate](#) prepares course takers for an entry-level position by teaching such IT support tasks as computer assembly, wireless networking, installing programs, and customer service.