QuickStart Guides

Kickstarting Your Programming Career with Python:

AN OVERVIEW

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INTRODUCTION

Today's information technology landscape is constantly evolving and rapidly embracing the newest advancements in the field. This has led to programming language skills becoming more sought-after and has made the process of learning how to code much easier and more accessible than ever before.

Learning how to write code is one of the best ways to future-proof your career, especially if you are in a technical field or plan on becoming a technical expert in your current role—and if you're learning to code, you may find that Python is the right match for this process. Python is one of the most popular and versatile programming languages available today, thanks to its relative ease of use, widespread adoption, and massive assortment of libraries and packages.

WHY CHOOSE PYTHON FOR YOUR PROGRAMMING CAREER?

As you get started on your programming journey, choosing the right language to learn is crucial. I see Python emerging as the ideal choice for several reasons. First, its popularity and wide adoption across various industries make it a valuable skill in the job market. Python consistently ranks among the top programming languages, owing to its extensive use by companies ranging from tech start-ups to global giants.

Second, Python's versatility presents numerous opportunities for career growth. Python allows you to follow different fields and disciplines, such as machine learning, data science, web development, automation, and more. Python makes you highly valuable to employers and increases your chances of landing a dream tech job in which Python programming skills are foundational to your success.

Finally, Python is regarded by most in the programming and coding space as being very readable and an easy language to start with. Its user-friendliness and easy-to-understand syntax makes it the preferred choice for programmers of all levels; it's simple enough for beginners to get started with basic one-liner scripts, and it's versatile enough for experts to create entire projects in Python. The skills that Python teaches you can be carried over to other languages too, so learning Python is a win all around.

JOB ROLES AND OPPORTUNITIES IN PYTHON PROGRAMMING

As you delve deeper into the Python programming language and become more proficient with your coding skills, you will start to unlock opportunities to work in different roles in many other sectors. When you find the specialty that you're interested in, you can branch off into one of the job roles below. (There are many more than this, but these are a few popular choices right now for Python developers.)

WEB DEVELOPER

Although Python is probably not the first language you think of when you hear the words "web developer," it is pretty popular, especially on the back end. Part of Python's appeal is that it is easy to use, and there are extensive libraries for web development in Python, such as Django and Flask. You can build dynamic and responsive websites and web applications that will help you learn the technical skills of Python while working toward web development.

DATA SCIENTIST/ANALYST

Python is one of the most extensively used languages in data science and analytics, largely thanks to its data-handling capabilities and mathematical features. Many libraries deal specifically with data manipulation, such as NumPy, Pandas, and Matplotlib. This is important because those libraries have mathematical features that allow you to calculate, sort, and display different mathematical operations and results. Data science and analytics roles see you focusing less on building the basic applications and more on building the queries and data models within the applications.

SOFTWARE ENGINEER

Well-written Python code is straightforward to read, especially if it has been commented on and formatted correctly. This makes it ideal for software engineers, who often fix live bugs and mission-critical software configuration issues under intense pressure. Having code that is easy to read and work on makes the job much more manageable, which is why many software engineers like using Python. As we have seen with other job roles, the great thing about Python is its wide array of libraries that make creating applications much easier. Software engineers can find the right tools for the job thanks to Python libraries.

AUTOMATION ENGINEER

Automation is a process that most big companies are pushing for right now, and with good reason. Repetitive manual tasks must be replaced with automated ones, and Python is excellent at assisting with this process.

Automation engineers must learn how to write code that will perform actions that people normally do, like running backups, reporting, and any other manual process.

MACHINE LEARNING ENGINEER

Machine learning has become a huge part of information technology systems in recent years. These systems are responsible for training the AI systems that are being used in almost everything electronic, from cars to mobile phones. Python is one of the best languages for machine learning, thanks to packages like TensorFlow and scikit-learn.

OTHER SPECIALIZED ROLES

We have only just scratched the surface when it comes to careers that Python fits into. Whether you are a desktop engineer simply looking to automate repetitive admin tasks, a DBA who would like to write tools and scripts, or a programmer who wants to experiment with a new language, Python is going to help you get the job done. Python is also useful for game developers, cyber security specialists, and even Cisco engineers who need to deploy switch configuration changes.

SKILLS REQUIRED FOR A PYTHON PROGRAMMING CAREER

As you start on your Python programming journey, you must nail down the basics so that you can move on to more advanced concepts when the time comes. Being a well-rounded Python developer puts you in the enviable position of being able to take on many different types of programming work, and it all starts with the foundational skills you learn from the start.

CORE PYTHON CONCEPTS

To get a firm understanding of how your Python applications will work, you need to understand the core concepts of Python, which are data types, control structures, loops, functions, and classes. Practice your coding skills and set out to test yourself with self-led exercises that will let you practice how these concepts are implemented in the real world.

VERSION CONTROL: GIT AND GITHUB

If you have ever been keeping track of versions of a document and then accidentally updated or deleted the wrong one, I'll bet you wished for version control. Version control not only helps you keep your current work safe from accidental edits and deletions, but it also lets you track the changes that have been made to your code. The sooner you learn how to integrate GitHub,

Git, or other deployment/repo tools into your workflow, the easier it will be to track your code, collaborate, and share it with others.

PROBLEM-SOLVING AND CRITICAL THINKING

Many people are misinformed early in their programming careers when they are told, "In order to program, you must know math." This is only half true. What this really refers to is that to program, you need underlying problem-solving skills and critical thinking. The ability to reason your way through a problem is what makes a good programmer. Being mathematically gifted will help you with Python, but a lack of natural math skill is not necessarily a deal-breaker.

COLLABORATION AND COMMUNICATION

Part of the Python programmer's job is to communicate and ask questions. Always ask questions when someone comes to you with a problem that needs to be solved. The most important question is almost always going to be "Why?" A simple question can save you a lot of time, and communication enables you to understand and be understood, which is a valuable skill no matter what path your Python career takes you on.

If you are just beginning your Python journey, then now is the best time to start working on these core concepts. They don't seem like a big deal on their own, but once you have sharpened each of these skills, you become a well-rounded developer who can work with your code and the users that interact with it. If you stay curious, ask questions, and continue to upskill, then your path will always lead you to something good when it comes to Python programming.

ADVANCING YOUR PYTHON PROGRAMMING CAREER

Knowing Python is great for moving up in the workplace, especially if you are in a technical role. Below are some ways that you can use Python to help you go further in your career. These points also apply to anyone who may be looking for a job that requires Python but hasn't quite landed one yet.

GAINING EXPERIENCE: INTERNSHIPS, FREELANCING, AND PERSONAL PROJECTS

To put yourself out there, you will need to start by building a portfolio. This doesn't have to be full of market-ready applications that can each do a million different things. It should simply showcase your talents with examples of your work that are functional and well-written.

Ideally, you want to display work that will show your potential employer that you know what you're doing, that you can write clean, readable code, and that you are the right candidate for the job.

NETWORKING: ONLINE FORUMS, SOCIAL MEDIA, AND INDUSTRY EVENTS

If you are active online, there are various avenues where you can find others in the Python-dev space. Social media, online forums, and industry events (whether virtual or in-person) are ways to reach out to others in the industry. Making friends with people that share your interests will help you find new opportunities and learn.

CONTINUOUS LEARNING: STAYING UP TO DATE WITH TRENDS AND TECHNOLOGIES

If you want to advance your career and learn more about Python, continuously upskilling yourself is essential. Learn constantly by trying out new frameworks, software versions, and libraries. The key is experimenting with technologies that take you out of your comfort zone. And as we all know, learning often takes place when we take on the unfamiliar and embrace changes in technology.

CONCLUSION

We hope you have learned something new about how to kick-start your programming career with Python. There is a lot more to a job in Python than first meets the eye, and we hope that by sharing some of the less technical aspects of getting started in Python, we have helped to shape your understanding of what it means to become a Python developer, programmer, or data scientist.

Remember to create practical examples of your work that you can share with friends and potential employers, and always try to have a project on the go. Once you have a better idea of the direction you want your Python programming career to go, you can specialize and follow the path toward your end goal.

At first, kick-starting your career with Python may seem daunting and complicated, but it's truly gratifying when you begin to make progress. If you persevere with dedication and hard work, then you will undoubtedly be rewarded for all your effort.