**Python for Beginners:**

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| **Intro**  **Agenda of session**  **Introduction to Programming & Python**  **Where is Python used in industry?**  **What makes Python different from other languages?**  **END OF COURSE**  **Why Python for Data Science?**  **Career Opportunities/job roles** |

Hi, I **welcome** you all in this full course session on python programming. In this course, you will learn all the basic & advanced concepts of python you need to know, to start python and that too in a very easy language using multiple real time examples. So, even if you are a beginner planning to code for the very first time or a working professional planning to switch in data science like fields this course is a must watch for you.

But before we begin let’s talk about the **agenda** of today’s session.

So, we are going to start with understanding what is programming , we will understand what python is, where python is used in industries & what basically makes python different from other languages.

Next we are going to talk about step-by-step installation of anaconda & we will also help you launching Jupyter Notebook & writing your first python program. Then we are going to start with the basics of Python, in where we are gonna cover essential concepts like comments, keywords, identifiers, statements, and indentation. Followed by which, we are going to learn about variables, data types, and how to perform type conversion. Then we will see how conditionals in python helps us in decision-making . We are going to understand loops in very detail. Then we will see all the data structures like Lists, tuples, sets, and dictionaries. Going further, we are going to learn different types of operator and function in python.

Then we will jump on to advanced python, in which we are going to explore object-oriented programming (OOP) concepts like inheritance, abstraction, encapsulation, polymorphism, followed by which will learn how to handle errors & exceptions in python. We will see file handling, serialization, and de-serialization. Going further, we are going to learn decorators, iterators and generators in python, and at last we will learn how we can use logging in python.

With that, we come to the end of this agenda, we will guide you to, why to use python for data science, what career doors & opportunities will python open for you, and finally we will guide you to what job roles you can get after learning python .

So, it’s a full fledged course on python including basics & advanced level concepts which you will be using while writing python programs, doing data analysis or even you will be using it for building end to end machine learning, deep learning, or any data science pipeline projects and much more you can do using Python programming.

Guys, it’s going to be a very exciting & interactive course on python.

Introduction to Programming & Python

So, let’s start with understanding, what is programming?

**Guys, Programming is just like giving instructions to a computer.**

Imagine we are teaching a robot to make a sandwich. We will give step-by-step instructions like "take two slices of bread," "spread peanut butter," and so on. Similarly, in programming, we write instructions for computers to follow and solve our tasks.

**Python is one of user-friendly programming language.**

Python is like a language that both you and the computer can understand. It's easier to read & write the code using Python as compared to some other languages.

So, technically speaking, Python is a high-level, interpreted, and general-purpose programming language. It was created by Guido van Rossum and first released in 1991. Guys, Python is known for its simplicity, readability, and versatility, which makes it one of the most popular programming languages in the world.

**So basically, how Python works?**

* **Write Instructions (Code):** We write step-by-step instructions or we can say code.
* **Run the Code:** And then, we tell the computer to run the code. It reads all instructions line by line and completes the task.

Where is Python used in industry?

Now, why should we learn Python? Guys, you will be amazed to know that companies like Google, Facebook, Instagram & many more tech giants are using Python in various ways, let’s see how they use Python?

* **Google**: Python is one of Google's preferred languages. Google's YouTube uses Python for handling video uploads, and Google's search engine uses it for various tasks.
* **Netflix**: Netflix also uses Python for automating infrastructure management and to improve its movies & shows recommendation system.
* **Spotify**: Spotify uses Python for various purposes, like backend services, music recommendation etc.

Apart from these Facebook, Instagram & many more companies are using Python.

What makes Python different from other languages?

So now that we know, what is Python & its applications, we will now see how it is different from other languages?

* **Readability**: So, unlike other languages like Java or C++, Python has an Easy-to-understand syntax, which is great for beginners. You will come to know this when we start writing code.
* **Versatility**: Then comes its versatility nature. Guys, you will be amazed to know that it is used not only in data science or AI field but also in web development, app development, automation related tasks and many more.
* **Helpful Community**: One more thing that makes Python different language from others is its large and supportive user community.
* **Clean Code**: Unlike other languages which uses curly braces for writing codes which are sometimes not readable, Python uses indentation to write neat and organized code.
* **Integration**: lastly, Python can be integrated or we can say mixed with other languages to make it more effective.

END OF COURSE……………………………………….

Why Python for Data Science?

Now when it comes to choosing a language when you start learning data science, Python is highly recommended. But, have you ever thought, why?

* **User-Friendly:** Python is known as the easiest language to learn and read. Because of its user-friendly nature, it’s great for those who are beginners in data science and even non-tech people can also learn it easily.
* **Useful Libraries:** Now when it comes to learn Python for data science or machine learning, Python’s special libraries like Pandas, NumPy can be used to make the task more easy so that coders can focus on logic building instead of heavy coding. Apart from this libraries like scikit-learn, TensorFlow are used to create smart models.
* **Visualize Well:** To make pretty graphs and charts to show data in a clear way visualization libraries like matplotlib, seaborn, plotly are used.
* **Community Help:** Now, while learning Python, ,many people especially beginners get stuck & needs help, so there are lots of online help and resources provided by data science community.
* **Job Opportunities:** At last, as we all know that, the demand for data scientists who are proficient in Python is huge. Many job listings in the data science specifically require Python skills, so learning Python opens doors to many career opportunities in this domain.

Career Opportunities/job roles

So now, let’s see what kind of career opportunities can be there after learning Python.

Data Analyst, Data Scientist, Machine Learning Engineer, Web Developer, Software Developer, AI Engineer, Automation Tester, DevOps Engineer, Quantitative Analyst, Research Scientist

Guys, after mastering Python, you can step into roles like Data Analyst, Data Scientist, Machine Learning Engineer, Web Developer, Software Developer, AI Engineer, DevOps Engineer, Research Scientist and many more. Each role offers unique challenges, but if you master Python, then the path to these opportunities becomes very clear.

Installing Anaconda & launching Jupyter Notebook

Live installation….

Practical

Outro

So, in this course, we learned all about programming and Python. We set up Python on our computer, wrote our first code in Jupyter Notebook, and began with basic stuff like variables, data types, conditionals, loops, we have also learnt data structures like list, tuple, sets, dictionary. Then we have covered different types of operators & functions in python.

Then in advanced python, we discovered concepts like, Object Oriented Programming, we have studied main concepts of OOP like inheritance, abstraction, encapsulation, polymorphism. We have covered errors & exceptional handling, file handlinf, serialization, de-serialization, decorators, iterators, generators. We have seen, how to do logging in Python.

At last we guided you through, why should we learn Python for data science, & what career opportunities & job roles you can after learning Python.

Guys just remember that, Python is your partner in the exciting world of programming!

Thanks for watching & subscribe to fingertips for more such videos.