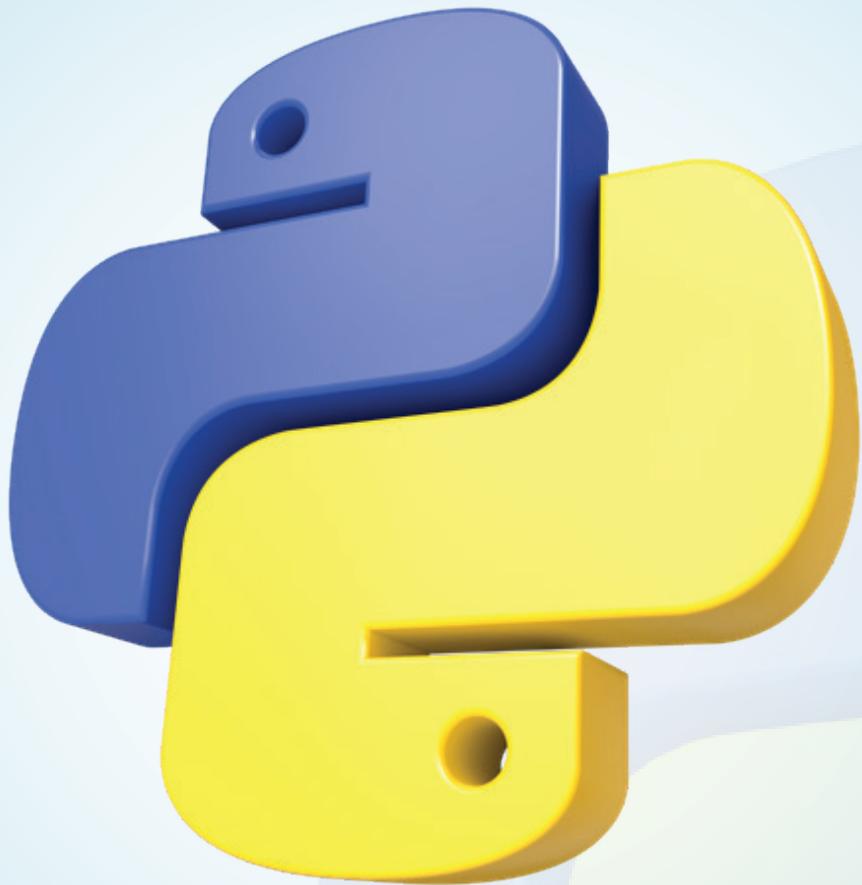


READY TO DRIVE IT INNOVATIONS WITH PYTHON PRO PROGRAMMING?

Let's

Start



JOIN GRRAS FOR
JOB READY SKILLS

What is Python?

Python is a high-level, versatile, interpreted programming language known for its simplicity and readability. Python supports multiple programming paradigms, including procedural, object oriented, and functional programming styles.



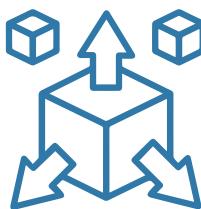
Importance of Python

Python is one of the most important and popular programming languages today for several reasons, making it a go-to choice for developers, data scientists, educators, and organizations. Here's why Python is essential:



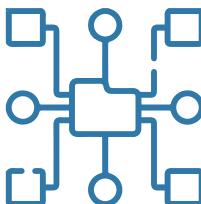
Simplicity and Readability

Easy to Learn: Python's syntax is simple and readable, making it accessible even to beginners. Its design emphasizes readability, reducing the complexity of coding. Its simplicity allows for quick prototyping and fast development cycles, making it a favorite for startups and projects requiring quick turnaround.



Versatility

General Purpose: Python can be used for web development, automation, scientific computing, artificial intelligence (AI), machine learning (ML), and data analysis. Its versatility allows developers to apply it to a wide range of applications. Python runs on multiple platforms (Windows, macOS, Linux), ensuring flexibility and broad usage.



Extensive Libraries and Frameworks

Comprehensive Ecosystem: Python has an extensive range of libraries and frameworks like NumPy, Pandas, TensorFlow, Flask, and Django. These libraries simplify complex tasks, such as data analysis, AI/ML model building, web development, and more.

Scientific and Data Science Applications: Libraries like SciPy, Matplotlib, and Seaborn make Python the top choice for data scientists, researchers, and engineers working in scientific computing and data visualization.



Community Support and Popularity

Active Community: Python's strong global community ensures continuous development and support. Developers can easily find solutions, contribute to projects, and learn from a wide pool of resources.

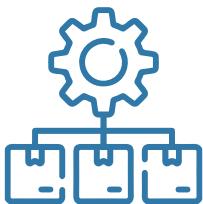
Popularity: Python consistently ranks at the top in surveys and reports on programming language popularity. It is widely used in education, research, and commercial applications.



AI and Machine Learning

Preferred for AI/ML: Python is the leading language for AI, machine learning, and deep learning projects. Frameworks like TensorFlow, Keras, and PyTorch make it the go-to choice for developing AI models, natural language processing (NLP), and computer vision projects.

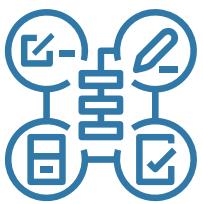
Data-Driven Applications: Its ease of integration with data processing tools makes it perfect for large-scale data analysis and machine learning pipelines.



Automation and Scripting

Scripting Language: Python is ideal for automating repetitive tasks, writing scripts to manage systems, or handling large-scale operations with minimal effort.

DevOps and Cloud Integration: Python's flexibility makes it integral in DevOps pipelines, cloud infrastructure management, and automating deployment processes.



Extensive Libraries and Frameworks

Comprehensive Ecosystem: Python has an extensive range of libraries and frameworks like NumPy, Pandas, TensorFlow, Flask, and Django. These libraries simplify complex tasks, such as data analysis, AI/ML model building, web development, and more.

Scientific and Data Science Applications: Libraries like SciPy, Matplotlib, and Seaborn make Python the top choice for data scientists, researchers, and engineers working in scientific computing and data visualization.



Web Development

Popular Frameworks: With frameworks like Django and Flask, Python is widely used for building scalable, secure web applications. It's an excellent choice for backend development.

Fast Prototyping: Web developers love Python for its ability to quickly create and iterate on web-based projects.



Career Opportunities

High Demand: Python's popularity has led to a high demand for developers with Python expertise across industries, from software development and data science to AI and automation.

Diverse Applications: Proficiency in Python opens doors to careers in diverse fields such as web development, AI/ML, data science, and more.

Market & industry stats for python

Python is one of the most important and popular programming languages today for several reasons, making it a go-to choice for developers, data scientists, educators, and organizations. Here's why Python is essential:

Career Opportunities and Salary Growth

High Demand for Python Developers

Reports show that Python is among the top most in-demand skills in the job market, with consistent growth in job postings. Roles such as **Data Scientist, AI/ML Engineer, DevOps Engineer, and Full Stack Developer** are in high demand.

Attractive Salaries

Python developers, especially those with expertise in data science or AI, are offered competitive salaries. The average Python developer salary is above the **industry standard, and this trend is expected to continue as Python remains at the forefront of tech innovation.**

Emerging Areas for Python



Quantum Computing

Python is becoming a popular language for developing quantum computing algorithms, especially with frameworks like **Qiskit** from **IBM**.



Internet of Things

Python's ability to handle diverse tasks makes it suitable for **IoT** applications, particularly in prototyping, sensor data analysis, and communication between devices.

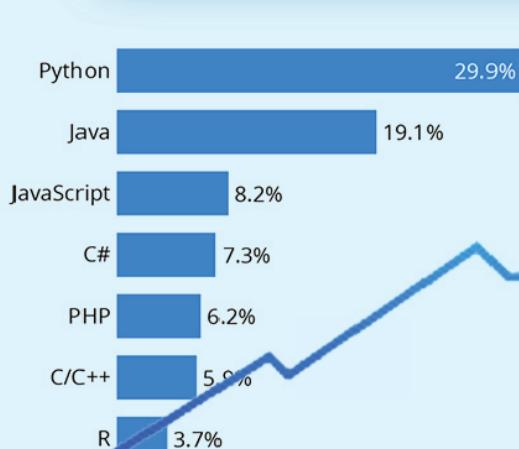


Blockchain Development

Python's simple syntax and powerful libraries like **PyCryptodome** and **Web3.py** are making it a growing choice in the blockchain space.

Rise of Python Developers in India

18,000 job openings currently available



60%
Increase in Python based Jobs



Where is Python Used ?

The Versatility of Python Makes it Ideal for Diverse Applications, such as



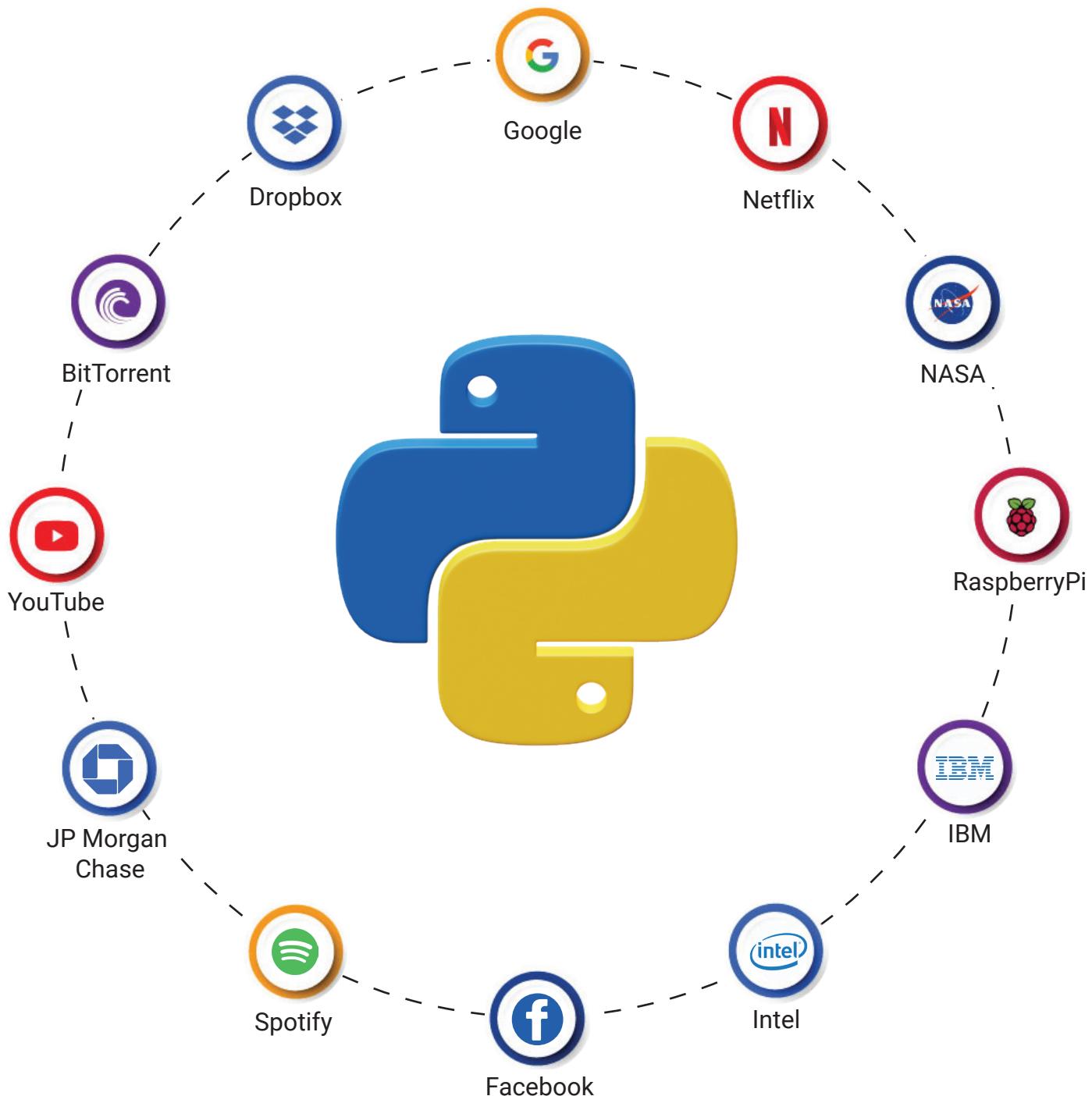
Python Over Other Programming Languages

Advantage	Other Programming Languages	Python
Readability	Syntax may be more complex in some languages	Clean and concise syntax promotes readability
Community Support	Varied community sizes and engagement levels	Large and active community for support and resources
Versatility	Specialized languages may be limited in scope	Versatile and suitable for various applications
Extensive Libraries	May require additional libraries for functionality	Extensive standard libraries and frameworks
Ease of Learning	Steeper learning curve in some languages	Easy to learn and beginner-friendly
Integration	Integration may require more effort and tools	Excellent integration with other languages
Scripting	May not be as efficient for scripting purposes	Well-suited for scripting and automation tasks
Web Development	Web development may require additional setups	Powerful frameworks like Django and Flask for web d..
Community Packages	Dependency management can be more challenging	Rich ecosystem of third-party packages
Compatibility	May have platform-specific limitations	Cross-platform compatibility
Rapid Prototyping	Development speed may vary across languages	Supports rapid prototyping and development
Data Science	Some languages may require specialized tools	Widely used in data science and machine learning
Open Source	Varied licensing models in other languages	Open-source with a large developer community
Job Market Demand	Job market demand may vary for different languages	High demand in the job market

Python Preferred By Large Companies

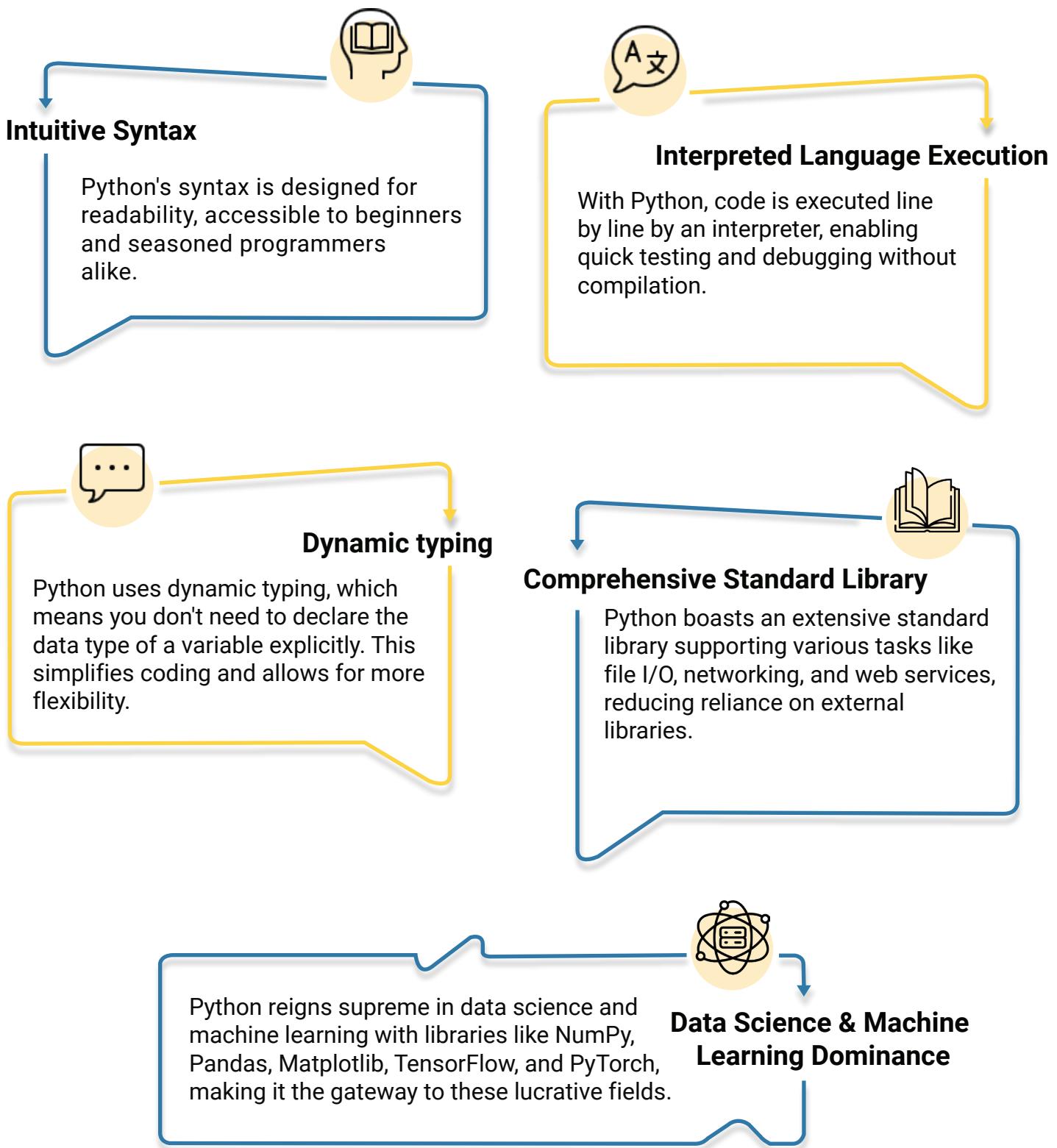
Cross-Industry Usage: Python is not confined to a single sector. It's used in industries ranging from finance, healthcare, and automotive to entertainment and gaming. This cross-industry adoption ensures that Python remains relevant in multiple domains, providing a broad spectrum of career opportunities.

Enterprise Adoption: Large organizations like Google, Facebook, Instagram, Netflix, and Dropbox rely heavily on Python for various aspects of their operations, including web development, data analysis, and automation. As more enterprises shift towards automation, AI, and cloud-based solutions, Python's enterprise adoption will rise.



Why Should You Learn Python ?

Python equips you with a versatile toolkit to efficiently solve a myriad of problems, making it indispensable in today's tech-driven landscape. It offers:



Future Opportunities For You

Mastering Python paves the way for diverse career prospects due to its versatility and widespread adoption. These are future opportunities to explore in Python after certification.



Who Should Do This Course ?

This course is designed for anyone seeking opportunities in Python programming. Specifically tailored for:

Beginners

If you're new to coding, this course serves as your launchpad to proficiency in Python.



College students & Freshers

Since it is widely used in industries, mastering Python provides a strategic advantage in your career.



Working Professionals

You can accelerate your professional journey and secure a salary hike by mastering the fundamentals and tools of Python.

Modules That We'll Cover

↳ All About Python

- Origin and History
- Scope, popularity, future of python
- Achievements of Python
- Mega Projects hosted in Python

↳ Python Installation and Environment Setup

- Flavours of python like Ipython, Cpython, PYPY etc
- Development Environment & Requirements
- Installation on windows, Linux, mac
- IDE of Python IDLE, Jupyter, PyCharm, Vscode, vim

↳ Writing first program in python

- Vim and command line creating first hello program in python
- Vscode & PyCharm as IDE
- Jupyter-Notebook and it's features for fast, simple learning process

↳ Data type and Data Structures

- Numbers & Strings
- List, Tuples & Dictionary
- Sets & Frozen Sets
- Type Casting

↳ Control Statements

- Flow diagrams
- If – else
- Nested if else

↳ Looping in Python

- For & While Loops
- Break, Continue & Else with loop
- Nested Loops
- Pattern Printing

↳ Functions in Python

- Built-in Functions
- Defining Custom Functions
- Function Calling
- Scope Resolution global, local, nonlocal scope
- Recursion & Memorization
- Modular Programming & Code Reusability

↳ Advance Functions in Python

- Lambda anonymous function
- Map & Reduce function
- Filter function
- Lazy & Eager Execution

↳ Closures and Decorators in Python

- Memorization using closures
- Writing extensible functions using Decorators
- Decorators to implement oops like functionality to functions

↳ OOPS (Object Oriented Programming)

- Encapsulation, Abstraction and Data hiding
- Data Security & Access Control
- Inheritance, Polymorphism and Overriding, Operator Overloading
- Classes & Objects
- Message Passing and Share Space in OOPs

↳ Advance OOPs

- Name Mangling in OOPs
- MRO (Method Resolution Order)
- Meta Classes, Slots & Properties
- Class methods & Static methods

↳ Implementation of Data Structures in Python

- Implementing Stack
- Implementing Queue
- Implementing Link-List

↳ Generators & Iterators in Python

- Memory Optimization Techniques
- Lazy Evaluation
- Custom Generators & Decorators
- Zip like generator objects and their working

↳ Exception Handling

- Built in Exceptions
- Handling Exceptions
- else keyword with exception
- finally, keyword to define Clean Up Actions
- Custom Exception using raise keyword
- Assertion Error, assert keyword for assertions
- Creating Custom Exception Class

↳ File Handling

- Type of file formats and their significance
- File Creation and writing data to files
- Reading data from a file
- Overwriting files
- Dealing with excel sheets, csv files
- Making data persistent to create real life projects

↳ Data Serialization

- Serialization and De-Serialization
- Serializing python objects using pickle, json and shelve modules
- Deserializing Object State to read data from byte file or from network
- Storing Custom Objects to make state machines

↳ Installing Third Party Modules in Python

- Pip (Python Package Installer)
- Installing packages and modules using pip
- pypi (python package index) repository for package lookup
- Offline installation of a package using pip

↳ Database Connectivity

- Concept of Data Base Management Systems
- Using sqlite3 to store lite data in database like format
- CRUD (Create, Read, Update, Delete) Operations
- Data Base Connectivity in Python

↳ **Modules and Packages in Python**

- Module name space
- If `__name__ == "__main__"` in Python
- Defining Custom Modules
- Creating & Testing Packages
- Importing and using custom packages
- Adding custom modules to library

↳ **Standard Library in Python**

- Os and Sys Module to interact with Operating System
- Shutil Module to copy, paste and delete files
- Subprocess Module to execute commands & their output
- Zlib for data compression
- Time & Datetime Module for time management

↳ **Graphical User Interface using Tk**

- Widgets like button, label, frame, canvas, radio buttons
- Check Buttons, dropdown menus, scroll bars
- Progress Bars, message box, text box, entry widget etc
- Geometry Managers like place, grid, and pack
- Dialog box, top level window implementation

↳ **Virtual Environment**

- Difference between Production and Development Environment
- Package versions and their importance in projects
- Creating a separate virtual environment for Python Projects
- Activating & Deactivating Virtual Environment
- Installing Different Version of packages in different environments
- Requirement.txt & README file

↳ **APIs**

- Application Programming Interfaces

- Accessing Google place APIs
- Accessing Facebook Graph API
- Weather & Other APIs

↳ GitHub

- Self-Paced through video

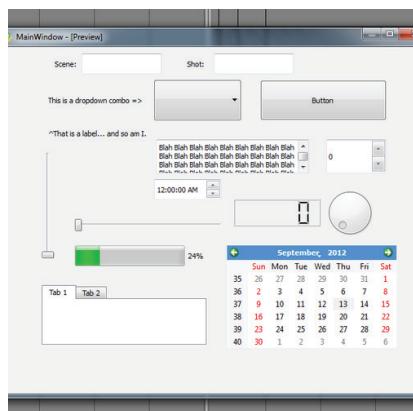
↳ Flask Web Framework of Python

- Installation and Configuration of Flask
- Rendering Templates
- Jinja2 Template Rendering (Include and Extending)
- Handling GET and POST requests in Flask
- Integrating HTML, CSS, Flask together
- Web Forms & Cookies and Sessions in Flask
- Database Connectivity in Flask

↳ Data Science & Machine Learning Overview

PROJECTS

- library management
- Alarm Clock
- Lock and unlock pdf
- Task Management System
- Todo List
- Jarvis
- Chat Application
- Attendance Management System



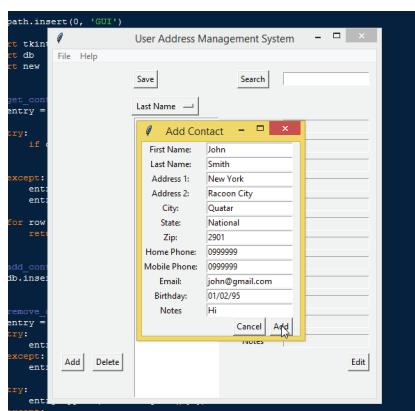
library management



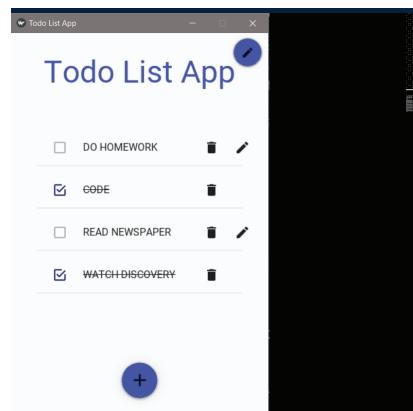
Alarm Clock



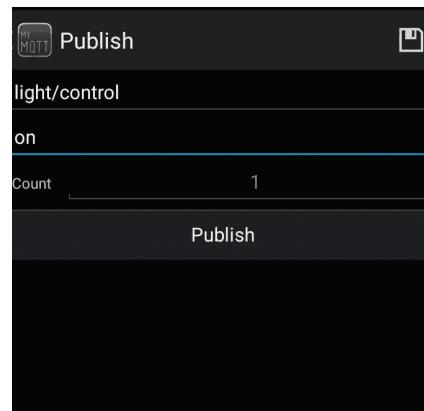
Lock and unlock pdf



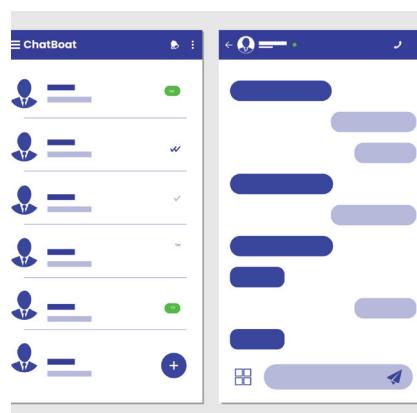
Task Management System



Todo List



Jarvis



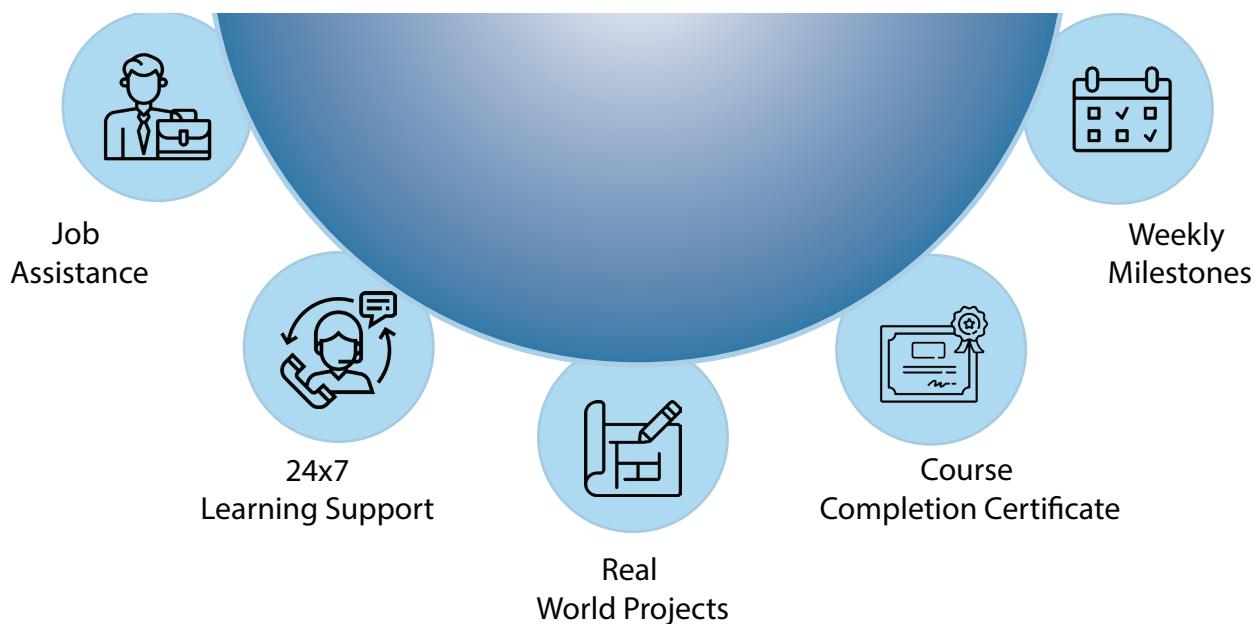
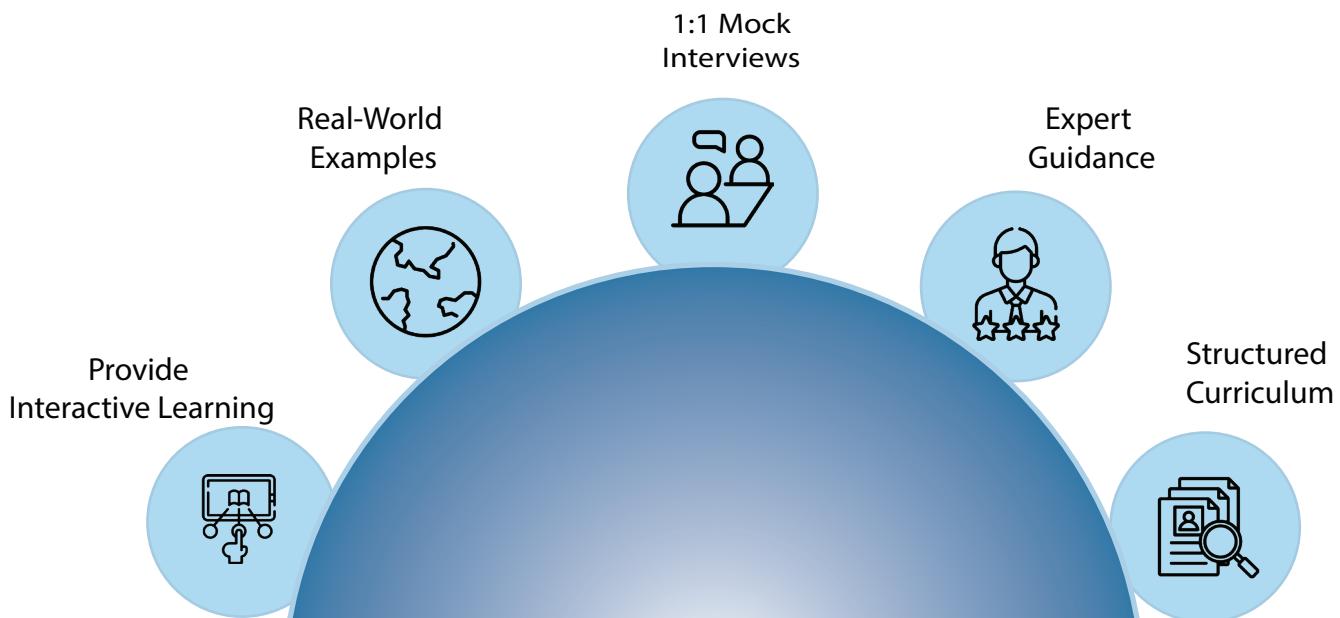
Chat Application



Attendance Management System

Why Python From GRRAS?

Enroll in this course to not only enhance your technical skills but also sharpen your competitive edge in today's dynamic world.



100% Job Assistance!

Yes, you heard it right! Our course not only offers expert learning but also guarantees 100% job assistance. With a dedicated team of job coordinators and 500+ hiring partners, we're committed to ensuring your success in landing your dream job.

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at

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Where Our Proud Alumni SHINE

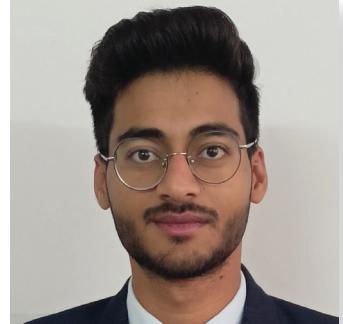


and 600+ companies

Hear It Directly From Our Students!

This is one of the best institute where you can learn any technology literally from scratch. I personally enrolled in Python course and classes started from the very basic of programming. The labs are upto the mark. Timings of the classes are also suitable according to our schedule of regular classes. You are given assignments and labs for the practice purpose and all the assignments are regularly checked by respective instructor. I personally recommend you to join the institute if you want to learn something from the basis to advanced level.

Gaurav Singh |



I recently completed a Python internship at Grass Solutions, and I must say it was an incredible learning journey. Throughout my time there, I had the opportunity to gain valuable insights into the world of Python development, and I couldn't be more pleased with the overall experience.

Mentorship: One of the standout aspects of my internship was the exceptional mentorship provided by the team at Grass Solutions. From day one, I was paired with a knowledgeable and approachable mentor who guided me through

Manish Bairwa |



My experience at the Gras solution Pvt. Ltd institute is so positive and it's a great institute for the IT training and one of the best thing I like about this institute that the trainer's are very supportive and so understanding and the course material is also easy to understand with the explanation of trainer's...

Aftab Ansari |



GRRAS must be one of the best institutes in Jaipur. The kind of support and guidance they provide, it will definitely help you to grow and achieve the target you are looking for in your career. As far as my opinion is concerned, don't look for the other options

Subhashini Anamthu |



This GRRAS Solution Pvt. Ltd. Is great training center. I'm doing data science here . The trainers in GRRAS Solution is excellent and experienced . They have excellent knowledge about their courses.



Vedant Laxkar |



This GRRAS Solution Pvt. Ltd. Is great training center. I'm doing data science here. They have excellent knowledge about their courses Trainers are good experience and excellent knowalage.The trainers in GRRAS Solution is excellent and good experienced.



Priyanshu Tambi |



This GRRAS Solution Pvt. Ltd. Is great training center. I'm doing data science here . The trainers in GRRAS Solution is excellent and experienced . They have excellent knowledge about their courses
Trainers are good experience and excellent nowalage.



Ayush Gupta |



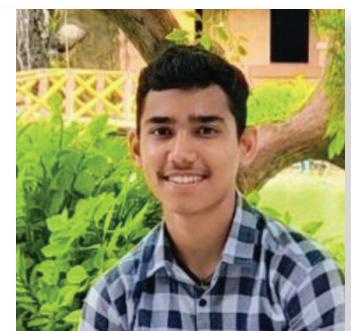
This Grras Solutions Pvt Ltd. is traning center. I'm doing data science here.The trainers in Grras solutions is great experience.Grras Solution is a great facilities and opportunity. This institute of the great job opportunities. They the great knowledge about there their courses
Trainers are experience.



Tanish Khandelwal |



I recently completed the internship in Data Science and Machine Learning using Python at GRRAS Solutions Pvt Ltd, and I couldn't be more satisfied with my experience. The curriculum was comprehensive, covering essential concepts and practical applications of data science and machine learning, which have immensely helped me in gaining a solid foundation in this field.



Nikhil Pathak |

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