What is python?

* Python is a general purpose, high level, interpreted language with easy syntax and dynamic semantics.
* Created by Gudio Van Rassum in 1989

Why is Python popular?

Python is the language preferred by beginners and pros alike.

* Easy

It is a open source language which makes it free for everyone to use.

* Free

Python can be used for desktop, web, mobile application development.

* Applications

Python has a great community who constantly make libraries and help those in need.

* Library and support

Features of Python.

* Simplicity
* Open source
* Portability
* Embeddable and extensible
* Interpreted
* Huge Libraries
* Object Orientation

Where is Python used in the Industry?

* Google – Better search results are provided based on the ranking of the websites and much more.
* Drop box – The Server and Client applications are coded using Python.
* Netflix – Machine learning is used to cluster users based on their interest on shows and retain them for longer.
* National Security Agency – Cyber Security analysis and other encryption and decryption work is done using Python.
* BitTorrent – Transfer of files between peer-to-peer which started out as a normal Python file.
* NASA – Scientific calculations are computed using python.

Python Basics:

* Variables, data types, operators
* Arrays
* Flow Control
* Methods
* File Handling
* OOPS
* Practice programming

Carrier Opportunities:

* Web development and frame works
* Web Testing
* Game development
* AI/Data Science
* Big data
* Smart Devices

How Netflix uses Python?

Introduction to Netflix----->

* Netflix is an American Company which:
* Renders Video on Demand (VOD) services
* Has about 180 million subscribers
* Revenue of $20.5 B in 2019
* How does it use Python?

We use python through then full content lifecycle, from deciding which content fund all the way to operating the CDN that serves the final video to 148 million members.

1. Open connect

Open connect – ISP – users

* CDN (Content Delivery Network)
* Comes in picture after you hit on ‘play’ button.
* Looks after all the content user want to watch.

1. Demand Engineering

Responsible for handling:

* Regional Failovers
* Traffic Administration
* Capacity Operations Management
* Fleet Efficiency

Used the NumPy, SciPy, Boto 3, redis and Flask helps to handling and development of the network.

1. Machine Learning

Ranges from:

* Creating personalization algorithms to figuring out the use cases
* Provides personalized recommendation.
* Outlines on a day-to-day basis
* Label generations, etc

Uses TensorFlow, Keras, Pytorch, XGBoost and Metaflow to create machine learning projects.

1. Big Data

Based on

* Ratings
* Searches
* Watch History
* Re-watch program
* Nature of show
* Device
* Credit Calculation
* Program pause time

1. Scientific Experimentation

Scientific experimentation team to allow A/B testing

Python frameworks used are:

* Metrics Repo which based on PyPika to write reusable code
* Statistics sector used PyArrow and RPy2
* Visualizations done using Plotly

1. Video Encoding

* Responsible for encoding and re-encoding tasks
* Python is approximately used for 50 projects such as VMAF and MezzFS
* Computer Vision Solutions (used for imagery) using Archer etc

1. Netflix Animation and NVFX

Python forms the base for all the animations and visual effects (VFX) at Netflix. All of the maya and nuke unions are done in Python.

1. Information Security

The most active open source python project of this team is Security Monkey. Netflix also uses BLESS to protect SSH resources. Repokid is used to grant the IAM permissions and TLS certificates to allotted through the Lemur. Both of these tasks are rely on Python.

1. Monitoring / Auto- Remediation

Auto-Remediation System – Event- listener

* Rules to respond to events
* Work flow engine ( Runs Automation)

Insight Engineering Team:

* Build and execute tools for operational insight, diagnostics, auto-remediation and alerting
* Makes use of Python for most of its services
* Example; the spectator python client library
* Products like Winston and Bolt are also built on python frameworks.

Who is Python developer?

Writes effective code for backend components, tests and debugs programs, crates applications that can be integrated with the present ones, etc

Python Developer Job Trends:

Python has topped the list with 28.73% share in popularity.In the last 5 years, Python has had 18.2% growth.

Source: GitHub

Average Salary :

* Experience- 10% (240K), 50% (501K), 90% (1M) in Indian (INR)
* Location- in INDIA
* Gurgaon RS 734K
* Bangalore RS 664K
* New Delhi RS 591K
* Pune RS 545K
* Mumbai RS 545K

In America

* California $122k
* New York $121k
* Washington $116k
* Virginia $115k
* Maryland $112k
* Skillset

The top 10 skills a Python Developer needs to posses

* CV Compiler

|  |  |
| --- | --- |
| Skills | No.of Jobs |
| AWS | 141 |
| Django | 141 |
| APIs | 135 |
| Docker | 104 |
| Linux | 102 |
| Cloud Computing | 99 |
| Machine Learning | 98 |
| Java Script | 96 |
| Java | 84 |

Who is a Python Developer?

* Software engineer
* Data Analyst
* Data Scientist

Why become a Python Developer?

* Popularity
* Features

Easy to learn

Tons of libraries

Free and open-source

High demand

Basics of Python :

* Variables and Data types
* Functions, Exceptions and I/O operations
* Loops, Control Statements , Conditional Statements
* Data Structures
* OOPs Concepts, File Handling , etc