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Introduction to Python

1. Applications of Python
2. What is python?
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7. Working with Python (modes)

Applications of Python

In real time or software companies uses python for developing which type of software's or applications

In real time or in software companies develop software using language with libraries or frameworks

What is library?

A library is predefined program with pre defined functionality. Library provides various functions for developing different types of applications.

1. Web Applications (django,flask,cherrypy,webpy)
2. Desktop Applications (tkinter,wxpython,pyqt)
3. Web Scraping (Beautiful soap, scrappy, selenium)
4. Mobile Applications (kivy)
5. Enterprises Applications/Distributed Applications (REST API)
6. Data Science/BA/DA (Numpy, Pandas, Matplotlib, …)
7. AI (PyTorch, Tensor Flow, ScikitLearn, ..)
8. Testing (selenium)
9. Cloud Engineer/AWS (boto3)
10. BigData (PySpark)

11. Image Processing
12. Audio/video processing
13. Networking (socket)
14. Gaming Development (pygame,..)

What is python?

Python is a programming language.
Python is high level programming language. All instructions in python in simple English.
Python is object oriented programming language. Object oriented is not language, it is a programming paradigm which defines set of rules and regulations for writing code or programs. Python is multi paradigm programming language.
Python is general purpose programming language. It is a programming language used for developing any type of software or application.
Python is interpreted programming language.

"python is a high level, object oriented, general purpose and interpreted programming language"

Python History

Python language is conceived in the year 1980
Implementation of python is started in the year 1989
This first version of python is released in the year 1991
This first version of python is released public in the year 1994
Python language is developed in "C" language
Python language is successor of ABC language
Python language is developed at CWI Centrum Wiskunde & Informatica (**CWI**) is the national research institute for mathematics and computer science in the **Netherlands**.

Python languge is developed by a Dutch programmer called "Gudio Van Rossum".
Python language is maintained by nonprofit organization called PSF (Python Software Foundation)
Python language is developed by using features of many languages

1. Perl (Scripting Langauge)
2. Modula-7 (Modular Programming)
3. C,C++ (Procedural and Object Oriented)
4. ABC (Syntax,..)

Python name is taken from a popular comic serial named "Monty Python's Flying Circus"

Python Features

Python features are nothing but facilities provided by python to python programmers.

1. Simple
2. Free and Open Source
3. Large Standard Libraries
4. Dynamic
5. High Level, Portable
6. Platform Independent
7. Object Oriented
8. Extensible
9. Embeddable
10. Interpreted

Simple or Easy

Python simplifies programmer's job by providing the following facilities.

1. Easy Syntax
   Compare to other programming languages syntax of python is easy or simple
2. Less Coding
   Python provides some features which allow solving given problem in less numbers of lines of code.
   Python provides large number of libraries, libraries allows to use existing code

Free and Open Source

Python software is free to download. This software can be downloaded from www.python.org
Python language source code is given to public
Public can develop,

1. New python language
2. Integrate python with existing technologies
3. New frameworks

Large Standard Libraries

Python community is very big.
Python provides large number of libraries
All these libraries are available in one repository

www.pypi.org

Libraries make it application development easy.

Dynamic

Programming languages are 2 types

1. Statically typed programming language
2. Dynamically typed programming language

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