When compare to Java or any other language Python is very easy.

Python is general purpose high level programing language.

General purpose means it can be used in:

1. Data science
2. Machine learning
3. web development
4. desktop and so on…

Python is developed by: **Guido Van Rossam** -->1989 NRI (Nation Research Institute in Netherlands)

Python is officially made available to public in Feb 20th 1991.

Python is highly recommended language for beginner. Why??

we can write program very easily just like English statement writes with less code...concise code.

Example:

Hello World in Java

Hello World in C

Hello World in Python

but u can do these thing in java 9 using JShell--> sept 21 2017 🡪 Java 1.9

Example:

Sum of two number in java.

Sum of two number in Python.

a,b=10,20(no other programming language provide this feature)

print(a+b)

Advantage big big code into small python code

What is the type of a and b??? 🡪 >type(a)

C or Java are statically Types programing language.

Python is dynamically Types programing language.

No need of semi colons.

Why named Python---Popular TV show BBC.... 1969 to 1974 🡪Monty Python's Circus

Guido borrow:

1. **Functional** programing feature from **C**

2. **OOP** programing feature from **C++**

3. **Scripting** programing features from **PERL/ shell script**

4. **Modular** programing features from **Modula-3**

most of the syntax borrowed from C and ABC programing lang.

**Where we can Use Python?**

we can have developed:

1. Desktop Applications.
2. Web application. (DJango, Flask, Pyramid, etc…)
3. Database related application.
4. Network related application.
5. Game related application.
6. Data Science application.
7. Machine Learning application
8. Artificial Intelligence (A. I.) applications.
9. Internet of Things(I.O.T.)
10. Mobile based but Python that much not recommended, at this time, may be solved in future...

**Which company Uses Python?**

1. Google
2. Open Stack
3. YouTube
4. drobox
5. NASA and many more…

No of keywords in Python 30 but in Java 53

**Feature of Python:**

1. Simple and easy to learn
2. Free ware and open source like Java not C#.
3. High level programming language.
4. Platform Independent.
5. Portability (moving Python program to one platform top another platform very easily without performing any change).
6. Dynamically Typed\*\*\*\*\*\*
7. Both Procedural and Object Oriented.
8. Interpreted
9. Extensible [we have some code in java (1 lakh lines of code), we can improve performance of the application.]
10. Embedded [we can use python program in any languages]
11. Extensive Library

If internal implementation is not good, we can customize it. Like Pyhton 🡪Jython i.e. Java Python, is customized version for python working with java.

**Limitation:**

1. Performance due to interpreted language

2. Mobile Applications.

Lecture3:

**Myth:**

Python is not suitable for large scale enterprise application.

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Since python is open source, so multiple python flavors are:

1. CPython- Standard flavor of python work with C language application.
2. JPython or Jython- Standard flavor of python work with Java language application.
3. IronPython Standard flavor of python work with c# language application.
4. Pypy --> PVM-->JIT (performance)
5. RubyPython --Standard flavor of python work with Ruby langauge application.
6. AnacondaPython --Standard flavor of big data application.
7. Stackless --Python for Concurency.

**Python versions:**

Current version: 3.6.5

**Total 3 versions:**

1. Python 1.0 introduced Jan 1994, almost gone....
2. Python 2.0 introduced Oct 2000, end support by 2020.
3. Python 3.0 introduce Dec 2008

Any new version should provide support for old version programs. In Python there is no backward support.

Example: print "hello" in py2 but print ("hello") in py3.

long data type is in py2 but not in py3

Identifiers:

definition:

Rules to define identifiers in Python:

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1. alphabets symbols( both upper case and lower case), digit (0 to 9), underscore(\_)

cash=10 //valid

ca$h=10 //invalid

2. Identifier should not start with digit.

total123=10 //valid

123total //invalid

3.Identifiers are Case sensitive

total=10

TOTAL=20

4. can not use keyword as identifier.

x=10 //valid

if=20 //invalid

5. length---->max charactor allowed for identifier--> No length limit for Python identifier.

but not recommended to lenghy identifier...

if identifier start with '\_' it is private.

if identifier start with double '\_' -->'\_\_' it is strongly private.

eg. \_\_main\_\_ -> language specific identifier i.e. special identifier used by Python.