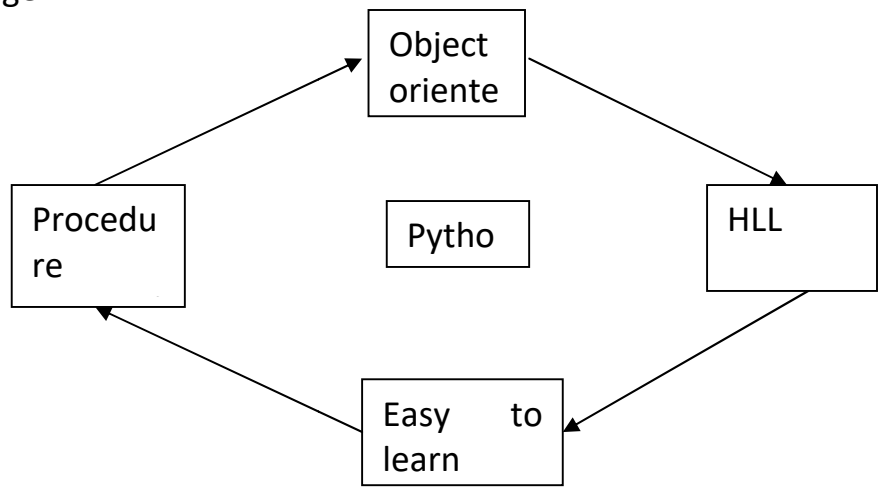
Introduction

Python was created by guide possum in 1989 and is very easy learn. Python is an interpreter language apart from this it is object oriented high level programming language.



Difference between as interpreter and compiler

Interpreter reads every line individually is one by one and in any case it find any of the error in any of time it stop processing and give the user and indicator that is error

In compiler entries code is process in one go and get complete list of error.

Who use python in Industry

Renowned companies use python for different domain when I say domain it means how python is used to various application area.

- ✓ YouTube popular video sharing service today, it largely written in python it is use as a scripting as a programming language.
- ✓ Google makes extinctive use of python in its web search system.
- ✓ NASA uses python for its scientific programming task.
- ✓ NSA (National Security Agency) of us uses python for cryptography and intelligence analysis.

Python features

- **Simple and easy to learn**

  Python is a simple and easy to learn because it resemble English language a lot.

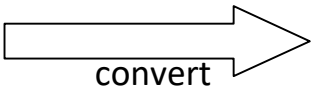
- **Python is free and open source**

  Python is an example of FLOSS (free/Libre and open source) which means one can freely distribute copies of this S/W read its source code, modify it and redistribute it.

- **High level language**

  It basically write code in English type language, Python will directly convent into low level machine language

  ```
  a=3
  b=3
  sum=a+b
  print (sum)
  ```


  ```
  0101001011
  1010001001
  1111000001
  ```

- **Portable**

  Support by many platform like linux, windows, Macintosh, Solaris, os/2 or even play station supports python

- **Python supports different parading**

  Python supports two major paradigm

  (I) Procedure oriented

  (II) Object oriented

- **Extensible**

  In python code can invoke C/C++ libraries, and integrated with Java & .NET code it support cross language operation.

Python career options

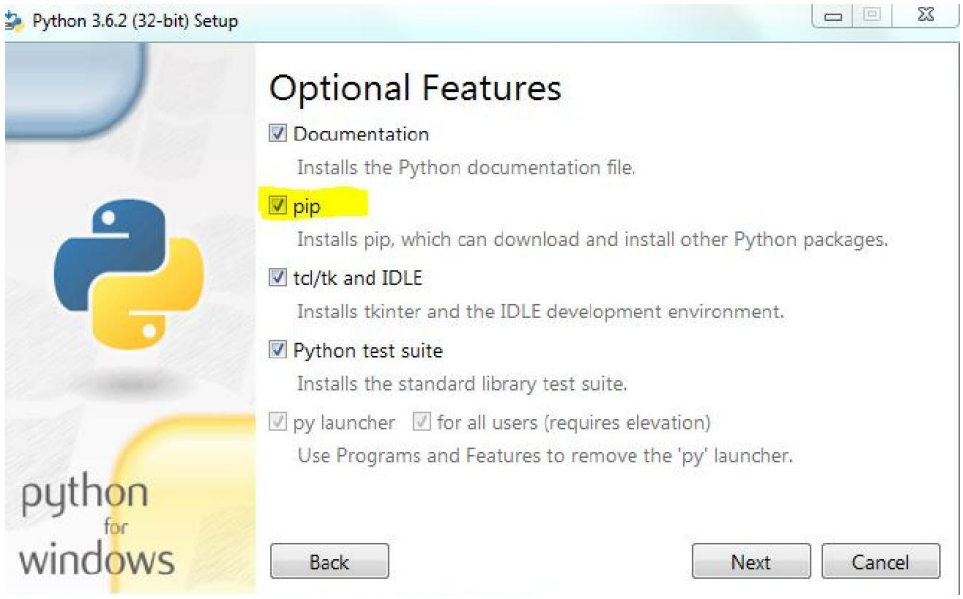
- It is most popular language for data scientists world wide
- Python is second most popular programming language for development on the web after java.

Installing Python and set all necessary Environmental Variables

Installing Python under Windows 10 follows a similar script to installs under older versions of the operating system.

1. Visit the official Python download page(https://www.python.org/downloads/) and grab the Windows installer for the latest version of Python 3.
2. Run the installer. You'll have two options — choose "Customize Installation."

3. On the next screen, check all boxes under "Optional Features." Click next.



4. Next, under "Advanced Options," set the location where you want to install Python. For ease, I use: C:\Program Files (x86)\Python.
   That refers to an installation of 32-bit Python 3.6.3.

5. Set PYTHON_HOME variable and its value should be, where you installed python
   `C:\Program Files (x86)\Python\`
6. Next, set the system's PATH variable to include directories that include Python components and packages we'll add later.
   To do this:

- Open the Control Panel (easy way: click in the Windows search on your task bar and type "Control Panel" then click the icon).
- In the Control Panel, search for Environment; click Edit the System Environment Variables. Then click the Environment Variables button.
- In the User Variables section, we will need to either edit an existing PATH variable or create one. If you are creating one, make PATH the variable name and add the following directories to the variable values section as shown, separated by a semicolon. If you're editing an existing PATH, the values are presented on separate lines in the edit dialog. Click New and add one directory per line.

```
C:\Program Files (x86)\Python\
C:\Program Files (x86)\Python\Scripts\
C:\Program Files (x86)\Python\Lib\site-packages\
```

7. Now, you can open a command prompt (Start Menu | Windows System | Command Prompt) and type:
   `python`
   That will load the Python interpreter:

```
C:\WINDOWS\system32>python
Python 3.6.3 (v3.6.3:2c5fed8, Oct  3 2017, 17:26:49) [MSC v.1900 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> That will load the Python interpreter:
```

8. Because of the settings you included in your PATH variable, you can now run this interpreter — and, more important, a script — from any directory on your system.
   Type exit() and hit Return to exit the interpreter and get back to a C: prompt.
   Optional: Set up useful Python packages
   Python 3 comes with the package installer pip already in place, which makes it super easy to add useful packages to your Python installation. The syntax is this (replace some_package with a package name you want to install):
   pip install some_package