**Comments**:

Importance of comments: To make sure we understand what we wrote, and for someone to understand it as well.

In python we have single line comments ONLY. Whenever we want to make sure that

Graphical user interface, text, application, chat or text message

Description automatically generated

You can use triple quotes for documentation purposes, it is not recommended to use triple quotes for multi line comments. Use # for comments in python.

Text, timeline

Description automatically generated

Even if you have 5 lines of comment use #.

**Python is complied or Interpreted language?**

Recommend watching this video before we start

<https://www.youtube.com/watch?v=e4ax90XmUBc&ab_channel=ISOTrainingInstitute>

What is compiler? – c, c++ which are high level languages which our machine doesn’t understand. That’s where a compiler comes in to picture. Compiler can convert from any language to any language means high to high and high to low as well.

Graphical user interface, text, application, chat or text message

Description automatically generated

What is interpreter? – When you work with python file it first gets compiled to give byte code, that byte code is interpreted in a machine language and who does that is a python virtual machine.

Diagram

Description automatically generated

It executed instructions line by line hence it is called interpreted language.

A picture containing diagram

Description automatically generated

Why so much complication? – compilation first and then interpretation, the reason is we use the concept of byte code to achieve ***portability***

Let’s know about platform independence – write code once and run on different platforms. Ex: as your machine changes your cpu architecture changes.

Python Virtual machine PVM: if you have this on your virtual machine you are good to go. Hence we perform ***python demo.py.*** Python says hey programmer you don’t have to worry about the compilation, I will take care of that and generate the byte code will be run on your PVM.

For everything you do in python behind the scenes it will generate the byte code.

Python is a concept and the implementation that we are using is ***cpython***

***cpython*** : whatever we have actually learnt so far is cpython. Below are some other implementations. It’s like different people cook a specific dish(biryani as an example) differently in their own style.

Arrow

Description automatically generated with medium confidence

Cpython it is implemented in c language, internal working is happening in c language.

Jython is with java

Dotnet version is ironpython

**Conclusion**: Python is both compiled and interpreted language.