Day-1 https://youtu.be/mekcaUxCQWw
Day-2 https://youtu.be/HXhCrD7x8NM
Day-3 https://youtu.be/7lrFX9KpSNU

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Dynamic
Programming languages are 2 types

1. Statically Typed Programming Language
2. Dynamically Typed programming Language

Static typed programming language
C,C++,Java,.Net are called statically typed programming languages. In statically typed programming languages variable type is fixed, it cannot be changed during runtime or after creation. Declaration of variable type is required

Dynamically Typed programming language
Python is dynamically typed programming language. In dynamically typed programming languages variable type is not fixed, it changes based on value/data. There is declaration of variables.

High Level and Portable
Python is high level programming language, which is easy to understand. All high level languages are in simple English.
All high level programming languages are portable. Portability allows developing and running application irrespective of hardware.

Platform Independent

Programming languages are 2 types

1. Platform dependent programming languages

2. Platform Independent programming languages

What is platform?
Platform is software, which provides good environment for developing and executing of software's or programs.
Operating system is called platform, which provides development and execution environment for applications.

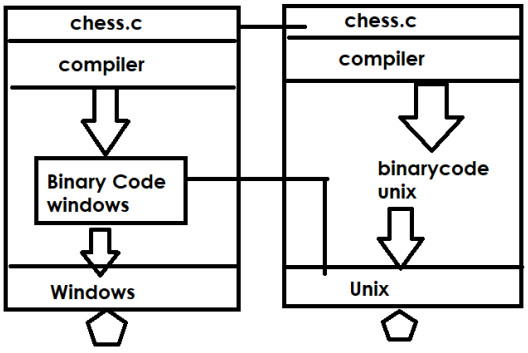
Operating system is software which acts as mediator between software and hardware.

Platform dependent programming languages
C,C++ are called platform dependent languages.

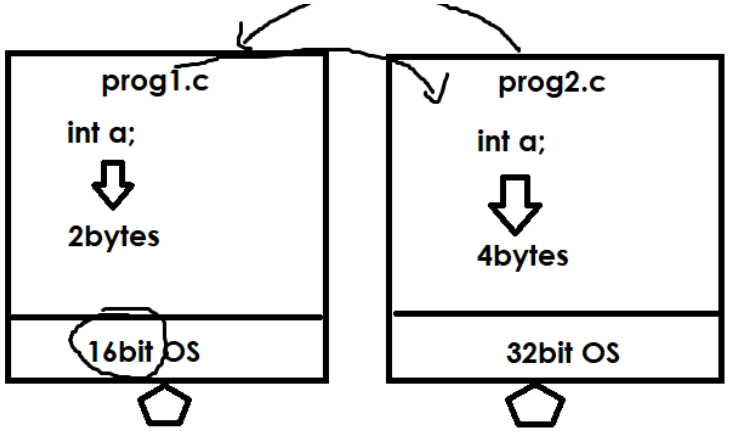
What is platform dependence?
In platform dependent programming languages development environment and execution environment both must be same.

Why C,C++ are called platform dependent languages?

1. C,C++ compilers generates binary code, which is platform dependent.



2. Data representation in C,C++ changes from one OS to another OS



Platform Independent languages

In platform independent programming languages development environment and execution environment is not same.

How python achieves platform independence?

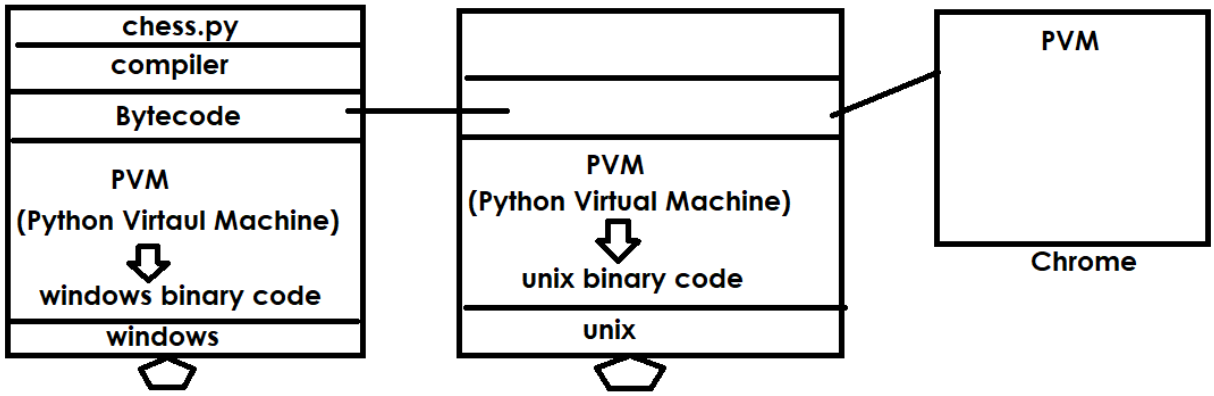
1. Python compiled code is platform independent

What is byte code?

Python compiled code is called byte code
When python program is compiled, python compiler generates byte code.
Byte code is platform independent code.
Byte code is python virtual machine code.
Byte code is not 0's and 1's, it is collection of mnemonics (verbs)
Byte code is .pyc file

What is PVM?

PVM stands for Python virtual machine.
PVM is software provided by python.
PVM provides an interpreter, which translate byte code into execution binary code or machine code.



2. Data representation in python does not changes from one os to another os

Advantage of Platform Independence

1. Write Once and Run Any where
2. Compile Once and Run any where

Object Oriented

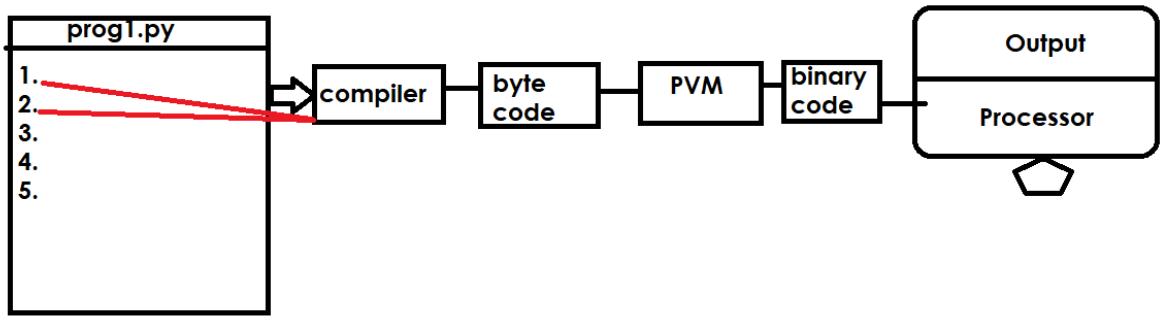
Python is an object oriented programming language
Object oriented is not language; it is programming paradigm which defines set or rules and regulations for organizing code or data.

Extensible and Embeddable

Inserting python code into other programming languages is called embeddable.
Inserting other programming languages code into python is called extensible

Interpreted

Python is interpreted language because in python compilation and interpretation is done line by line.



Python software Versions

Python Language is released with 3 versions

1. Python1 1994 (Out dated)
2. Python2 2000 (Out dated)
3. Python3 2008

The current version of python is 3.13.3

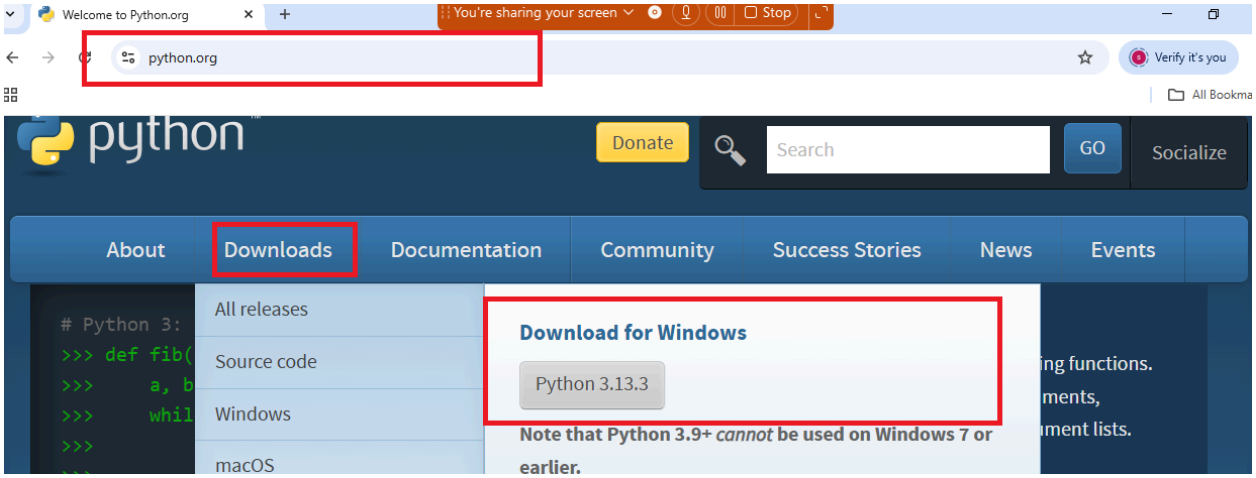
3 major version
13 minor version
3 micro version

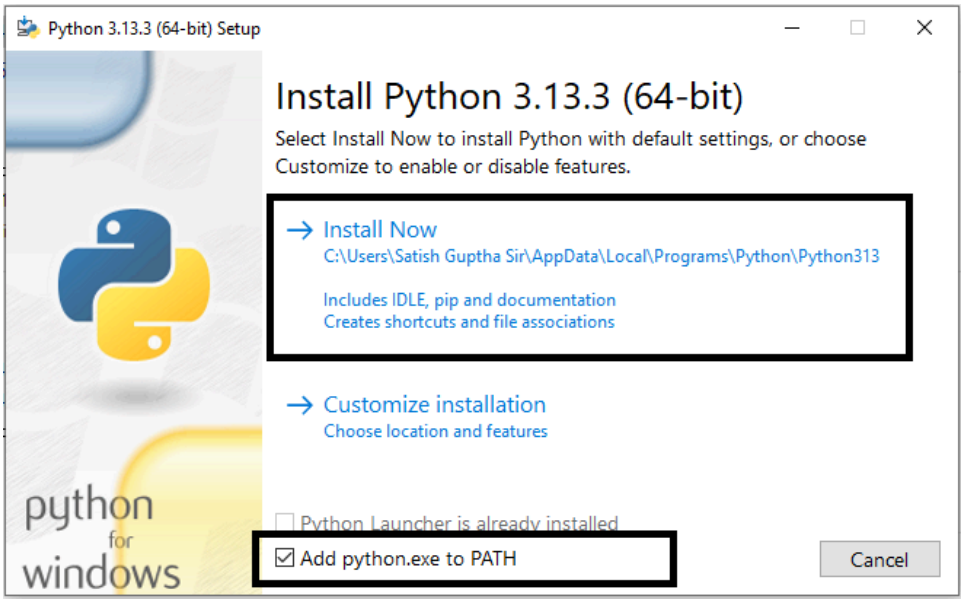
There is no forward or backward compatibility between major versions.

Installing python software

Python software is free to download

www.python.org





Python software provides

Python working modes

Other editors

Python Language Fundamentals